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Special Export Catalog

Creamery Package Manufacturing Company

Chicago Illinois U. S. A.

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Creamery, Cheese Factory Dairy and Milk Dealers' Apparatus and Supplies

Manufactured by

Creamery Package Manufacturing Company

182-188 East Kinzie Street

Chicago, Ill.
U. S. A.

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TO THE TRADE

SEP 27 1904

WE present herewith our Special Export Catalogue. In arranging this catalogue we have endeavored to eliminate the apparatus and supplies which are not likely to be in demand in the foreign markets. It will be understood, of course, that we carry a complete line of everything required to equip a Creamery, Cheese Factory, Dairy or Milk Distributing Plant, and in making up complete outfits same can be included. We desire to call particular attention to the Disbrow and Victor Combined Churns and Butter Workers, the Ideal Skim Milk Weigher, the Farrington Duplex Pasteurizer, the Farrington Cream Ripener, the Acme Butter Printer and our complete line of Babcock Testers. We believe that these articles represent a distinct advance in the field of dairy apparatus. We are sure that they ought to find a ready sale in any market where modern buttermaking apparatus is required.

Kindly bear in mind that we are the largest manufacturers and dealers in this line of goods in the world and that we are constantly bringing out improved apparatus, as the needs of the trade demand. We call your attention also to our complete line of goods used by milk distributing plants. It is our intention to use every effort to secure and hold the export trade in our line of goods.

We earnestly solicit your correspondence and assure you that any business with which we are intrusted will have our best attention.

NOTICE

We are prepared to quote on all goods listed in this catalogue or any other pertaining to the dairy industries delivered on board cars New York City. In packing our goods for export the greatest care is taken to protect our customers in the matter of ocean freight rates. When orders are placed with us direct, it will be necessary to furnish us with proper information regarding financial responsibility. When placing orders through the New York export commission merchants, we request you to see that it is distinctly designated on your order that goods are to be purchased of us. We have no exclusive agents in any of the foreign countries and are prepared to handle orders received through any of the regular channels tributary to the foreign markets.

The specifications and prices given herein are subject to change without notice.

Very respectfully,

CREAMERY PACKAGE MFG. CO.

Cable Address, "Creamery," Chicago.
Private Western Union and Leiber's Codes.

MECHANICAL REFRIGERATION FOR CREAMERIES.

MECHANICAL REFRIGERATION has been recently adopted by a number of our best equipped creameries, and its success in these instances gives promise of its general introduction in the near future. Following are some of the advantages of Mechanical Refrigeration as shown by practical experience:

IT GIVES A DRY STORAGE ROOM. All creamerymen readily understand that, when ice is used, this is a very difficult thing to secure, as the melting of the ice is a process which naturally develops moisture and renders the room damp, and one that does not readily keep its contents in proper condition. On the other hand, the frosted pipes of the Refrigerating Machine condense the moisture of the room upon them, thus drying the air and protecting the contents of the room from moulding.

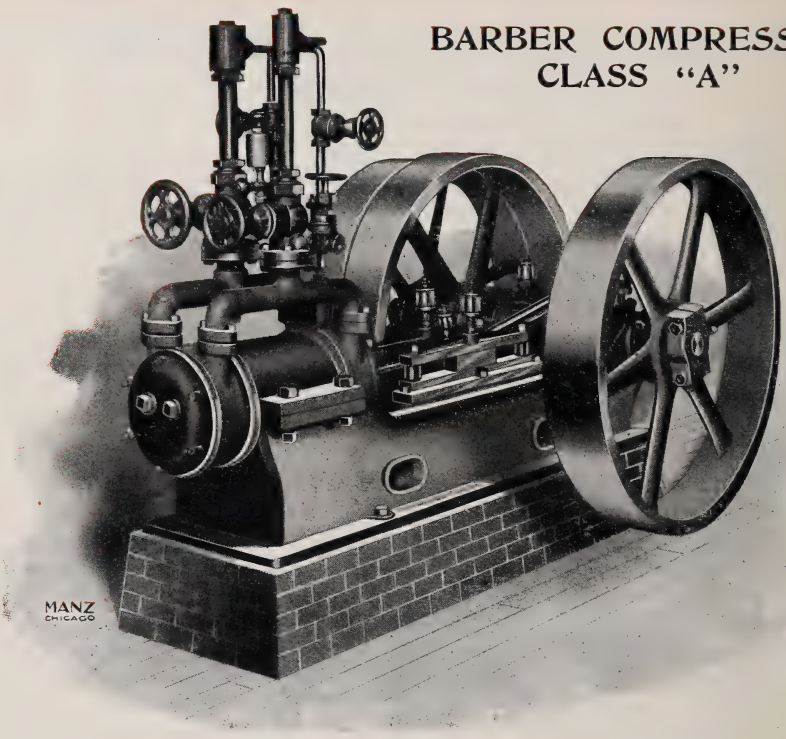
IT SECURES ECONOMY OF SPACE. A large additional building is always required for the storage of the ice required for the season's use. In addition to this, a considerable part of the refrigerated room must also be utilized for the ice necessary for its refrigeration. Where mechanical refrigeration is used, the ice house is entirely done away with. The machine itself requires but a small space, and can generally be placed in the engine room or some part of the work room of the creamery. The piping required to transmit the cold to the refrigerated room occupies but a very limited space, and does not, therefore, necessitate any enlargement of the room for its introduction.

IT IS CLEAN. The handling and packing of the ice in the refrigerated room is ordinarily a process which brings much dirt into the Refrigerator, and frequently into the manufacturing room of the creamery. The Refrigerating Machine avoids everything of this nature, there being no ice to handle, and nothing in connection with it which brings dust or dirt into any part of the creamery.

BY THE AID OF SUITABLE appliances, the Refrigerating Machine can be utilized for cooling the milk and cream to any temperature desired, and this can be done as fast as desired. The value of this for creamery purposes will be readily understood by every creameryman. Where the operator is able to reduce the temperature of the cream to 40 or 50 degrees as soon as it leaves the separator, he has nothing to fear, even in the hottest weather, from any deterioration. It is also desirable in many cases to cool the skim milk as it leaves the separator, in order that it may be returned to the patrons in the best condition for feeding the calves and other stock. This is a very important advantage which cannot be had where ice is depended upon for Refrigerating purposes.

IT GIVES ABSOLUTE CONTROL of the temperatures of the rooms to be cooled. With Mechanical Refrigeration the refrigerated

BARBER COMPRESSOR CLASS "A"



This type of machine is most largely used by creameries.

room can be reduced to any desired temperature, and can be held there at will. This is a result which cannot be obtained with ordinary Ice Refrigeration, and is very important.

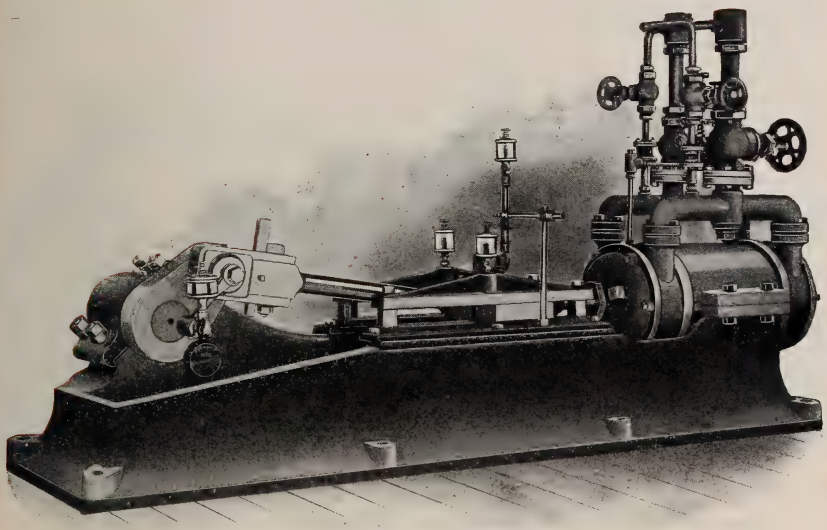
Butter to be shipped in hot weather will arrive at its destination in much better condition if, prior to shipment, it can be thoroughly chilled to a temperature of 30 or 32 degrees. When delivered at this temperature to the transportation companies, it will stand a considerable journey, even in the hottest weather, without suffering from heat.

WHERE MECHANICAL REFRIGERATION is used, the churn room can be easily piped and its temperature controlled. This is a result which cannot be secured by the means of Ice Refrigeration, and has not been attempted. Where, however, the Ice Machines have been used, this is being done, and its advantages will be readily appreciated by every butter maker. Many of the difficulties of butter-making in the hottest summer weather can be absolutely avoided where the churn and work room is held at a temparature of 60 degrees during the working hours.

THE SAVING OF LABOR BY THE USE OF Mechanical Refrigeration is also an important item, in that there is no ice to be handled daily in the filling of an ice box. There is also economy in its use, in view of the fact that it is ordinarily operated only during the hours while the machinery of the creamery is run for other purposes.

BARBER COMPRESSOR

Class "B"



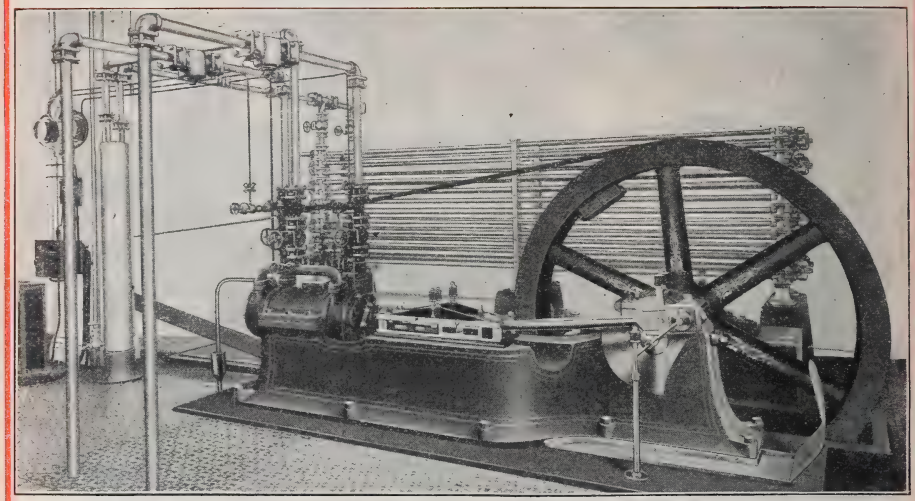
This type is preferred when a direct connected engine is installed

Having acquired the business formerly conducted under the name of the A. H. Barber Manufacturing Co., and having established a refrigerating machinery branch to which our Chicago factory is exclusively devoted, we are prepared to continue the manufacture of improved refrigerating machinery on a much more extensive scale than before.

In describing the Barber Compressor, of which we are the sole manufacturers, we call special attention to the cylinder, the most important feature of the machine. It is cast with flanges on the sides, which allow it to set half way down in the bed and hold it perfectly rigid on the frame. The heads, as well as the cylinder, are cast of semi-steel and made in tongue and groove style, making it impossible for the packing to be blown out. The cylinder heads and valves are water-jacketed for the purpose of keeping them cool. Our patent suction and discharge valves are made in one piece of tool steel with a solid head. There are no threads or nuts on them which can be stripped, therefore there is no danger of the suction valve getting into the cylinder head and wrecking the machine, as is often the case in other styles of compressors. These valves are hardened and ground, so that it is not possible for them to pit and leak, as sometimes happens with soft metal valves.

By taking out the valve cap nuts the valves are easily removed for inspection without disturbing any other part.

In the center of the suction arm is placed a strainer to prevent pipe scales from getting into the cylinder or obstructing the valves. This can be easily removed by taking off the cap nut. The stuffing-box is lubricated by an oiling ring to which oil is supplied by a pipe from the lubricator above. This small pipe is also connected with the suction arm, which draws back any ammonia gas that may have escaped the first packing ring.



Class "D"

Complete Belt Driven Refrigerating Compression Side. Side Crank Compressor, with Double Pipe Condenser.

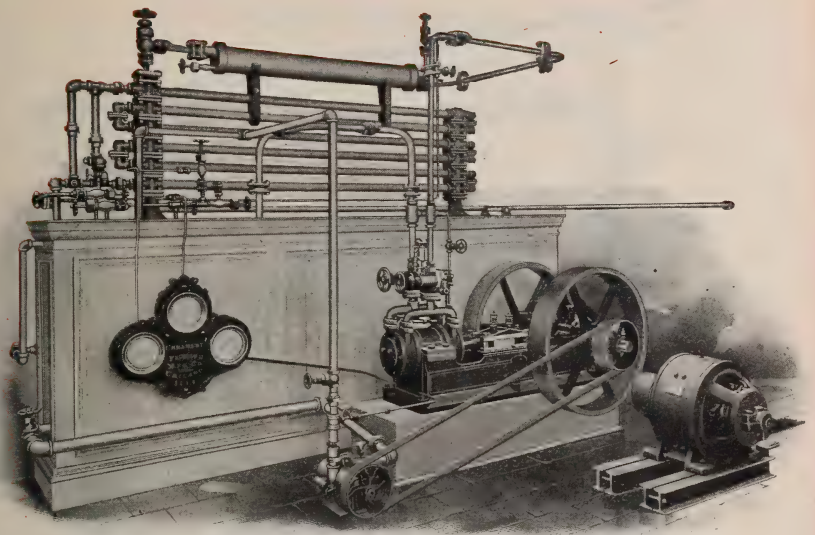
The gland which is at the end of the stuffing-box is supplied with two springs which, being regulated by nuts, equalize the tension on the packing. On the top of the suction and discharge arms are the table valves used in starting and shutting down the compressor. Above these valves is a very simple and complete by-pass arrangement used in pumping over the ammonia from one side of the system to the other.

On this page is shown our class "D" compressor which we use directly connected to a Corliss engine or for belt driving. This bed is of the tangye style for side crank which we use on all our larger-sized machines.

Our main shaft bearing is formed with quarter box having a wedge adjustment full length of the bearing, the boxes encircling the shaft. The bottom box is free to move with the shaft, thereby remaining central under any strain or displacement of shaft.

All our crank shafts are forged of the best quality machine steel and accurately turned to size. A flat locomotive guide is used, thereby giving the machine a deep and rigid frame which makes it impossible for the cyclinder to get out of line. The connecting rod is forged of open-hearth machine steel, and the boxes are made of phosphor bronze.

Our piston is made as light as possible and is screwed and riveted on the rod, and is fitted with metallic packing rings of cast iron, insuring a perfect contact with the walls of the cylinder so that no leakage takes place when the gas is being compressed.



Complete Belt Driven Refrigerating Plant with Submerged Double Pipe Brine Cooler and Double Pipe Condenser—Center Crank Compressor. Class A.

PRICE LIST COMPRESSION SIDE

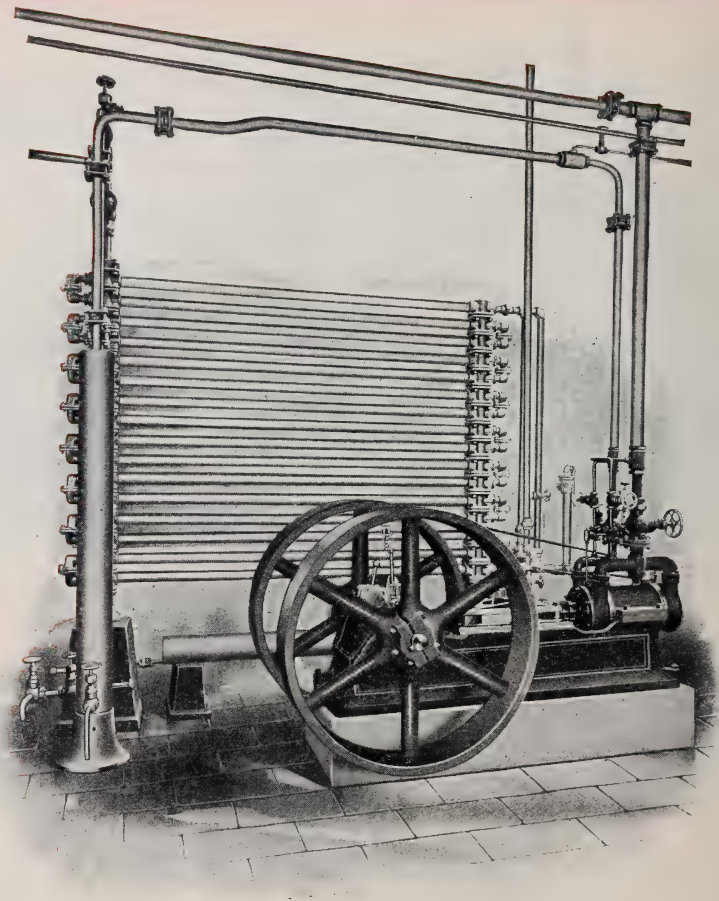
Number of compressor	Tons refrigeration	Or tons ice	Size of cylinder Inches	Speed. Revolutions per minute	Size of pulley Inches	Diameter of shaft Inches	Diameter of discharge pipe. Inches	Diameter of suction pipe. Inches	Horse power required	Gallons water required per minute at 60°	Shipping weight Pounds	Price F. O. B. Chicago
CLASS A—CENTER CRANK.												
1½	3	1¼	4½x 6	125	36x 6	2 5/16	1	1¼	4-5	5	3,500	$1,213
2	5	2	5½x 6	125	40x 6	2 5/16	1	1¼	7-8	7	4,500	1,473
3	6	3	5¼x 9	115	40x 6	2¾	1	1¼	8-9	8	5,200	1,733
3½	7	3	5½x 9	115	40x 6	2¾	1	1¼	9-10	9	5,500	1,862
4	8	4	6¼x 9	105	48x 8	3	1¼	1½	10-12	11	7,200	2,079
5	10	5	6¼x11	105	48x 8	3⅜	1½	2	13-15	14	8,800	2,339
6	12	6	7 x11	105	54x10	4	1½	2	15-18	17	9,800	2,685
7	14	7	8 x11	95	60x10	4	1½	2	18-20	20	11,000	3,032
8	18	9	9 x11	95	66x12	4½	2	2½	24-26	25	12,800	3,638
CLASS B—SIDE CRANK.												
6-B	13	6	7 x14	90	60x10	4	1½	2	18-20	17	15,000	$3,075
7-B	17	8	8 x14	90	66x12	4½	1½	2	24-26	24	17,500	3,825
8-B	23	10	9 x14	90	72x12	5	2	2½	34-36	34	23,000	4,650
CLASS D—SIDE CRANK.												
11-D	20	10	8½x18	75	84x12	5½	2	2½	30-33	28	23,000	$6,930
12-D	25	12	9½x18	75	96x12	6½	2	2½	37-40	34	28,000	7,536
13-D	30	15	10½x18	75	96x14	6½	2½	3	45-48	42	35,000	8,749

Nos. 1½ to 8 compressors are for belt driving and include no power or belt.
Nos. 6-B. 7-B and 8-B compressors include direct connected slide valve engines.
Nos. 11-D, 12-D and 13-D compressors include direct connected Corliss engines.
Prices for ice-making details, expansion coils or brine coolers to suit requirements of each installation will be furnished on application.

DISCOUNTS

In writing for discounts from the above list, or for other information, address our **Refrigerating Machinery Branch, 1142 West Sixteenth Street, Chicago, Ill., U. S. A.**

We solicit your orders for our superior steel and malleable iron ammonia fittings, which are all standard and reliable.



Complete Belt Driven Refrigerating Compression Side. Center Crank Compressor. Class A.

TESTIMONIAL

UNIVERSITY OF ILLINOIS
College of Agriculture and Agricultural Experiment Station
Address: Urbana, or Champaign, Ill., U. S. A.

GENTLEMEN: May, 14, 1903.

Replying to your inquiry in reference to the refrigerating plant which you installed three years ago in the creamery department of the University of Illinois, we wish to say that it has been satisfactory in every respect.

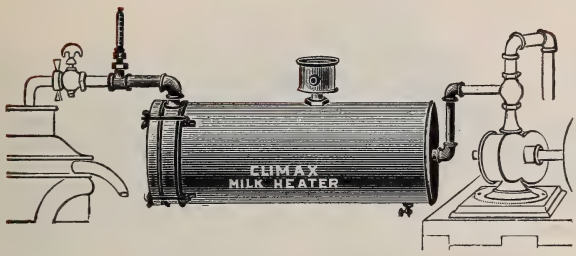
The compressor is working as well now as it did three years ago and a number of tests which were made within the last two years indicate that it is doing work to its full estimated capacity.

Your improved double pipe condenser does all that is claimed for it. We like it very much. It is hung up on the ceiling where it is out of the way and at the same time neat appearing. No condensation or dripping water occurs from the outside of it, as is the case with the old style condenser. Another feature we deem quite important is that it condenses the ammonia quickly, which necessitates a much smaller charge of ammonia for the same machine capacity than with the old style condenser. We only regret we have not installed a similar style brine cooler.

The simplicity of your compressor and workmanship you have displayed here will be a credit to you at all times. I am, yours truly, (Signed) OSCAR ERF,
Prof. Dairy Manufactures.

MILK HEATERS.

THE CLIMAX.



The invention of this implement came from a demand by creamerymen for something better than the common tempering vat for heating milk up to the required temperature for the separator.

It is known that where milk flows into the separator, if it has been thoroughly and evenly heated, better results are obtained, than where it is allowed to run in partially and unevenly heated—the latter causing the skim milk to test more or less butter fat, which defect is always laid to the separator.

In construction, the inside cylinder is a removable one, being held in place by bolts and thumb nuts, and set away from the outside cylinder to form a space for a thin sheet of milk between the outside and inside cylinder. The milk is delivered into this place and spreads out into a thin sheet or layer, so as to be evenly and thoroughly heated.

The inside cylinder may be easily and quickly removed, permitting the ready and thorough cleansing of all surfaces with which the milk comes in contact.

In order to effect the rapid and thorough heating of milk, two things are essential, the milk must be distributed in a thin sheet or layer, and the heating medium must be caused to circulate, otherwise there will not be that even distribution of heat.

The outer cylinder is filled with water and steam applied to its entire length, heating the water and thus heating the thin sheet of milk. No steam comes in contact with the milk, as this has been found quite objectionable, especially where foul water and boiler compounds are used.

The Heater may be used in connection with a rotary pump, or direct from the receiving vat.

Very little steam is required for its use, generally ¼ to ½ turn of the half-inch valve is found sufficient.

The heater may be attached to a rotary pump, as shown in cut, or connected direct to the vat, where the gravity system is used.

SIZES AND PRICES.

No. 0.	Capacity,	500	lbs.	milk	per hour	$18 00
No. 1.	"	2,000	"	"	"	20 00
No. 2.	"	3,500	"	"	"	22 00
No. 3.	"	6,000	"	"	"	25 00
No. 4.	"	8,000	"	"	"	30 00

THE "LARKEY."

Price, complete ..... each, $15 00

MILK HEATERS



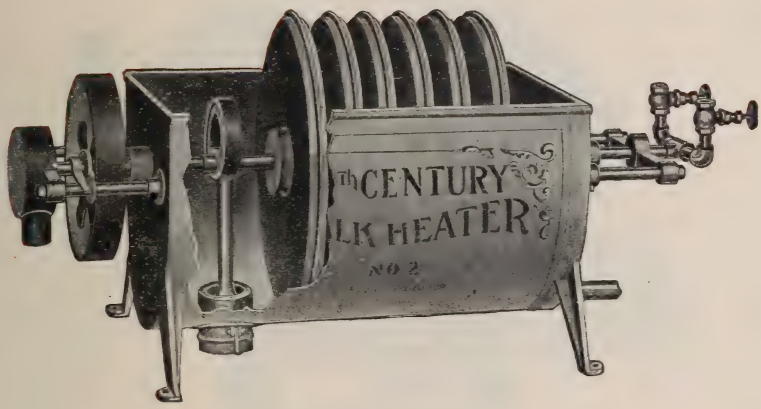
THE TWENTIETH CENTURY DISC HEATER

In the construction of this heater we have overcome the objectionable features of all milk heaters in use at the present time. The problem of correctly heating milk seems simple, yet it has baffled the efforts of inventors and manufacturers until the invention of the Disc Process.

The Twentieth Century Disc Heater is the outcome of years of thought, study and experiment. The Disc System is an advance in the art of heating milk that places the Twentieth Century so far in the lead that other heaters cannot even approach its work. It is built with a series of heating discs. The milk flows into the heating vat at the opposite end from where the steam is admitted to the system of discs. As the milk rises and flows through the heater, it comes in contact with each disc in turn. Each disc in the system, as the steam inlet is approached, is hotter than the last. The milk is gradually heated until when it reaches the last disc, and is drawn off evenly at the delivery end, it is just the desired temperature. The temperature is perfectly controlled by using more or less steam. There is absolutely no danger of cooking the milk, as the special construction of the disc prevents the live steam from coming in contact with the heating surface. By the distribution of the heat through the disc system, the entire heating energy of the steam is perfectly utilized. To insure the complete separation of milk, especially in winter, the milk must be heated uniformly.

Another advantage in using the Twentieth Century is the aeration which the milk receives while heating. In passing over the discs in a thin film the milk is thoroughly aerated; feed and stable flavors are driven off, and a better grade of cream and butter is thereby insured.

MILK HEATERS



THE TWENTIETH CENTURY DISC HEATER

COMBINATION HEATER AND PUMP

The uniformly thorough heating which the Twentieth Century does will enable the separator to skim to full capacity under any condition of milk or climate. Its use cuts the usual loss in skimming in half. Though costing more than other heaters, it will pay for itself in a short time in the increased yield of butter.

We make them suitable for any size creamery, with belt or turbine power, with or without pump attachment. The advantages of using a combination pump and heater are many. First, it takes less power to run a heater and pump combined than it does to run a pump and heater separately. Second, it does away with belt and pulleys or a steam pump, the pump being actuated by a cam running on the shaft, which operates the discs. Third, it takes up less room; it can be set right over the vat. Fourth, there is no undue agitation of the milk, as it is not forced but simply allowed to overflow into the bottom of the heater.

This machine, fitted with pump, can be run with belt attachment only.

The turbine driven machine is intended for use in skimming stations and plants where no engine is used. The exhaust steam from the motor is used to heat the milk, making the cost for power nothing.

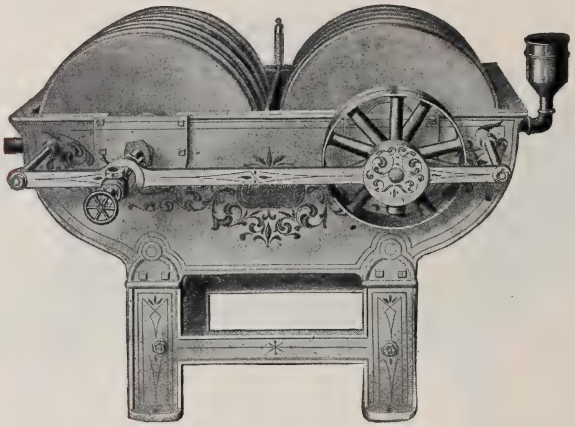
SIZES AND PRICES

		With Steel Discs.	With Copper Discs.
No. 1.	Capacity One Separator	$60 00	$67 50
No. 2.	Capacity Two Separators	75 00	85 50
No. 3.	Capacity Four Separators	100 00	112 50
No. 4.	Capacity Five Separators	140 00	155 00

With motor, add $25.00 to above prices.

With pump, add $25.00 to the price of No. 1 and No. 2 sizes, and $30.00 to price of No. 3 and No. 4 sizes.

THE FARRINGTON DUPLEX CREAM PASTEURIZER AND COOLER



BELT DRIVEN

America is known the world over as foremost in all kinds of inventions and improved methods of manufacturing. It is hard for us to acknowledge that for a number of years we have been behind the times in the art of making butter. Nevertheless it is a fact.

American creamery men are just coming to realize the importance of pasteurization in the manufacture of high-grade butter. The creamery men of Denmark, Sweden, and Germany have been pasteurizing for years. The high standing of butter made in these countries in the English market compared with the product of American creameries is sufficient evidence of the value of pasteurization.

The question naturally arises: Why will pasteurized cream make a better grade of butter than unpasteurized? We will try to answer this briefly.

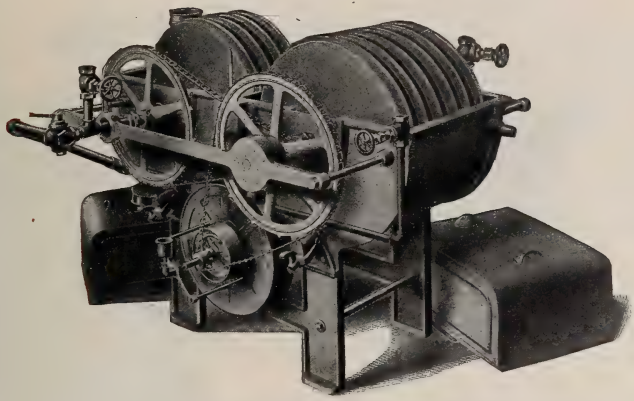
It is impossible for the most experienced butter maker to produce a uniform grade of butter day after day unless he pasteurizes the cream before ripening.

Pasteurization should destroy all offensive bacteria, all strong flavors produced by mixed feeding, and places the cream in such shape that it is absolutely under the control of the butter maker, an impossibility with old methods; in other words, it makes possible the correct use of a starter. When this is done uniformly flavored butter follows, as effect follows cause.

The Farrington Duplex Pasteurizer is the most convenient and efficient pasteurizer made for the production of pasteurized cream butter. The Duplex heating and aerating principle, found only in this machine, delivers the cream to the ripening vat in the very best possible condition to respond to the ripening process. It is free from all the various feed and stable flavors found in raw cream, and which, in case the pasteurizing is done in a closed heater, are retained in the body of the cream. This pasteurizing and aerating process alone adds several points of quality to the butter.

The disc principle of pasteurization does away entirely with all the old clumsy devices now on the market. It is far in advance of all other methods in economy and results.

THE FARRINGTON DUPLEX CREAM PASTEURIZER AND COOLER



WITH TURBINE ATTACHMENT

A pasteurizer, to do its work properly, should run easily and with small power. The small size Farrington Duplex runs with a turbine motor, or is belted, if preferred, the power to run being so small as not even to be considered. When run with motor the exhaust steam from the driving motor does the heating.

A pasteurizer should be economical in cooling water and steam. The Farrington Duplex uses so little steam that a steam gauge shows no pressure. The cooling water does not average at full capacity more than two or three times the amount of cream cooled. The cream is cooled to within a very few degrees of the cooling water. The disc principle utilizes all the energy of the steam and cooling water. No other machine can even approach its work.

The Farrington Duplex takes up but little room. The cream from the separator runs directly into the machine and thence into the ripening vat, doing away entirely with pumps or other means of elevating the cream into or from the pasteurizer. There is no baking on, as in all other machines. The cream is not whipped or churned, but smooth and even, churning out more butter than cream from any other machine.

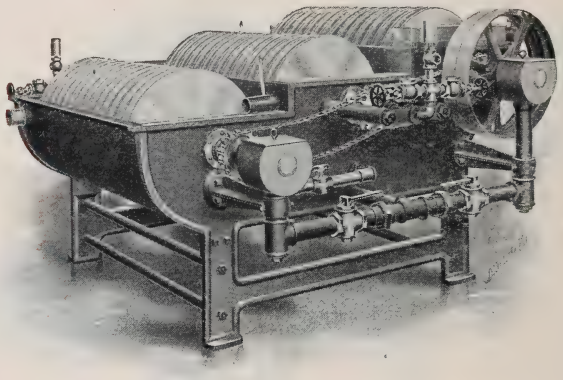
A fruitful source of mottled butter is found in other pasteurizing machines. Direct steam and consequent cooking of small particles of albumen in cream cause mottles. The "disc idea" does away with all this. Direct steam cannot reach the outer wall of the discs.

The Farrington Duplex Pasteurizer, when used in connection with a Farrington Cream Ripener, gives the butter maker control of the ripening of the cream and the flavor of the butter to an extent not possible with any other machine or method.

We will place it in your creamery alongside any machine on the market, prepared to prove its superiority.

Write for Capacities and Prices.

THE FARRINGTON DUPLEX PASTEURIZER



The universal success which has so far attended pasteurization indicates that it has unquestionably come to stay. There is no doubt in the mind of any up-to-date handler of milk that he should use a pasteurizer. The real stroke of good business, however, is in deciding what machine to purchase. The pasteurizer that the milk dealer wants is the one that does the most thorough work at the least possible running expense.

The Farrington Duplex Pasteurizer is constructed on entirely novel principles. A series of heating discs supplied with hot water and steam, followed by cooling discs containing flowing cold water, carry at each revolution a thin sheet of milk which is heated, aerated, and cooled thoroughly and evenly. The idea is new and was developed after years of study and experimenting.

This principle of heating and aerating at the same time is found only in the Farrington Duplex. As a result the product is of the finest flavor, having a clean, pure taste not found in milk or cream heated in a closed machine.

The cream line will show up better in milk pasteurized in the Farrington Duplex than any other.

Another advantage is that there is never any cooked or foreign flavor to the milk.

We are positive that the Farrington Duplex is better in every respect than any other. Being all metal, it will wear longer than any machine that uses wood in its construction. It is also more sanitary. The metal frame will not absorb grease or dirt and is always clean and sweet. No matter how long a Farrington Duplex is in use it can never become foul or sour. The bearings are horizontal, and it is impossible for the machine to get out of alignment.

It is noiseless in operation. The power is transmitted from one set of discs to the other by chain drive. One can scarcely detect by hearing, when standing four feet from the machine, whether it is in operation or not.

The hot water is closely confined in the discs. There is no vapor or steam escaping from the heater. The condensed steam leaves the heating discs almost as cold as the milk enters the machine. All the heat in the steam is utilized. We guarantee to save one-half the amount of water and one-third the amount of steam over any other machine on the market to-day.

Write for Capacities and Prices.

THE VICTOR STARTER CAN

One of the most important developments of modern dairy science is the use of pure culture starters to control the flavor of butter. Good butter-makers find them of great benefit even when the cream has not been previously pasteurized. Their use, however, is absolutely necessary when pasteurization is adopted. The prime requisite to success in making this kind of butter is a good starter can.



In the construction of this can we have met every requirement of high-grade creamery apparatus. It is very strong, the outside cylinder being No. 18 steel plate, corrugated to increase strength, inside cylinder of heavy copper tinned over. Top seams double seamed and riveted every 2½ inches. Bottom of can is soldered and riveted to outside can by means of clips. Steam and water inlet pipe is rigid, being connected to separate casting on top of machine, therefore cannot be broken off. These features make the can light and easily moved. At the same time it is almost indestructible.

The 4-inch insulating space around the can is practically air-tight. It has insulated cover, one inch thick, with air space. It is, therefore, unequaled for holding the temperature of the contents at the desired point.



Another special feature is the 6-inch brass steam muffler on inlet pipe, doing away with noise while heating.

Power is applied by worm and gear attached to cover, making no noise and requiring very little power.

The cover has a secondary cover 6 inches wide. This makes it unnecessary to remove when taking temperature, etc.

The driving mechanism and cover lift out together. The stirring device is removed by thumbscrew.

These features make the "Victor" easy to handle and, what is more important, easy to clean and keep clean.

SIZES AND PRICES

SIZE — DESCRIPTION	PRICE
20 gallons, with legs and faucet	$30 00
20 gallons, without legs or faucet, on castors	27 50
30 gallons, with legs and faucet	35 00
30 gallons, without legs or faucet, on castors	32 00
50 gallons, with legs and faucet	45 00
50 gallons, without legs or faucet	42 50

THE SANITARY IDEAL VAT.



The above illustration shows our new sanitary Ideal Vat. We believe there is a tendency among the better class of creameries to equip their plants with the most substantial goods it is possible to obtain. There is also a growing demand for utensils of every sort that can be thoroughly cleaned and kept in a perfectly sanitary condition, It is the growing demand for this class of goods that leads us to design this special vat.

It will be seen from the illustration that the vat is of superior construction throughout. There is no wood used in the construction of this vat, except the top rail to which the inner lining is attached. Instead of the ordinary wood body or frame we use heavy galvanized steel frame made in the same form as the tin lining; this will outlast several wood frame vats. The lining and body are so put together that the regular water space is left between them, and a space for ice box on the end provided for in the cream vats. The whole vat is held up and strengthened by strong iron legs which are attached to the inner knees or braces to which the outside lining of the vat is attached in such a manner as to absolutely prevent bulging or sagging.

We fully guarantee these vats in every respect. We believe, considering their convenience and durability, they are the cheapest vat on the market today.

SIZES AND PRICES.

SIZE.	Tin Lined.	Copper Lined.
100 gallons	$ 55 00	$ 66 00
200 "	65 00	78 00
300 "	80 00	102 00
400 "	100 00	130 00
500 "	115 00	150 00
600 "	130 00	170 00
700 "	140 00	185 00
800 "	150 00	200 00
900 "	165 00	215 00
1000 "	190 00	245 00

Ice box on end $5 00 extra.

20TH CENTURY SANITARY VAT



This vat is made of heavy material, and makes a very convenient receiving vat for use in creameries and sanitary milk plants.

It has many advantages over ordinary vats, as it has no wood to rot or become foul. The vat is strongly banded to prevent sagging, and the total weight is carried from the top as in the ordinary style vat. When steam or water connections are not wanted this is undoubtedly the most satisfactory vat to use.

We can also furnish this vat without legs for use where it is desired to suspend vat from ceiling.

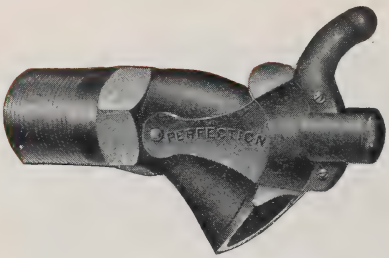
This vat is equipped, when wanted, with an agitator. This consists of a blade extending the entire length of the vat, suspended from a shaft in the center of the vat. This agitator describes a semi-circular movement about one inch from the sides and bottom of the vat. It moves slowly back and forth, keeping the milk uniformly mixed, and effectually prevents the cream from rising to the top. This is very desirable in milk plants; it insures a uniform output. It is also useful in creameries, as separators will do better work if the milk is of constant richness.

SIZES—"20TH CENTURY" VATS

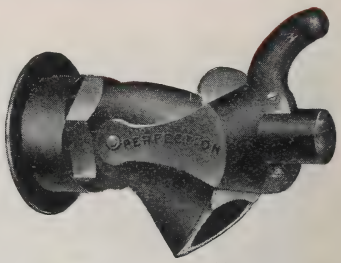
WITH LEGS			WITHOUT LEGS		
Gallons.	Plain Vat.	With Agitator.	Gallons.	Plain Vat.	With Agitator.
75	------	------	75	------	------
100	------	------	100	------	------
150	------	------	150	------	------
200	------	------	200	------	------
250	------	------	250	------	------
300	------	------	300	------	------
400	------	------	400	------	------
500	------	------	500	------	------
600	------	------	600	------	------

Write for Prices.

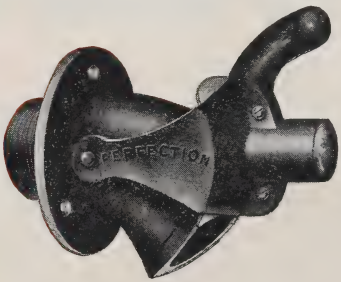
"PERFECTION" GATES



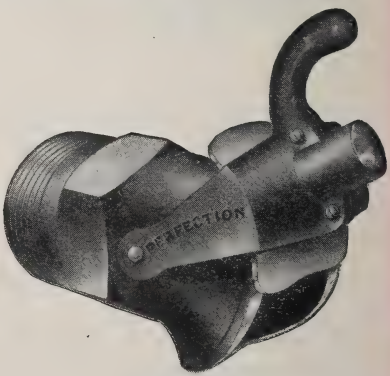
No Flange, Outside Thread



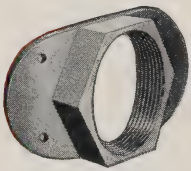
Flanged, Inside Thread



Flange Churn Gate



Weigh Can Gate



Weigh Can Collar



Molasses Gate

SIZES AND PRICES

1¼ inch	each, $1 40	3 inch	each, $3 00
1½ inch	each, 1 75	Weigh can collars	85
2 inch	each, 2 50	Gate and collar complete	3 85

CHURN GATES

WHITE METAL. IRON HANDLES

1 inch	each, $1 75	1½ inch	each, $2 50
1¼ inch	each, 2 00	2 inch	each, 3 00

PRICE LIST OF "PERFECTION" GATE EXTRAS

HANDLES

1 inch, right or left	each, $0 15	Per set and screws	$0 30
1¼ inch, right or left	each, 15	Per set and screws	30
1½ inch, right or left	each, 20	Per set and screws	40
2 inch, right or left	each, 20	Per set and screws	40
3 inch, right or left	each, 30	Per set and screws	60

CAPS (Brass)

1 inch	each, $0 40
1¼ inch	each, 45
1½ inch	each, 50
2 inch	each, 60
3 inch	each, 1 00

SPRINGS (Brass)

1 inch	each, $0 10
1¼ inch	each, 10
1½ inch	each, 15
2 inch	each, 15
3 inch	each, 20

MOLASSES GATES

No. 1, 1 inch	each, $0 60
No. 2, 1⅛ inch	each, 70
No. 3, 1⅝ inch	each, 80
No. 4, 1⅝ inch	each, 90
No. 5, $1\frac{13}{16}$ inch	each, 1 00

WEIGH CANS

LOW DOWN STYLE

These cans are larger in diameter than the old style. Being but 24 inches high they are very convenient; strongly made of the best quality XXXX tin plate; they have slanting bottoms and Perfection gates.



PRICE

Plain.

Holding	40	gallons, with	1	gate..$10 00
"	60	"	1	" .. 11 00
"	80	"	1	" .. 13 00

With Partition.

Holding	60	gallons, with	2	gates. $17 50
"	80	"	2	" . 18 50

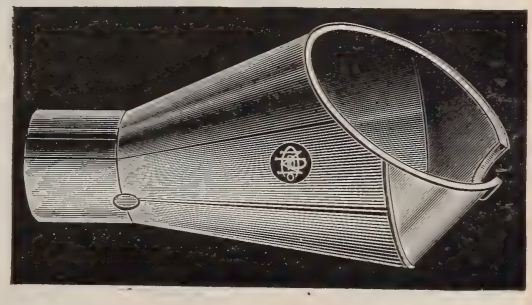
CONDUCTOR HEADS.

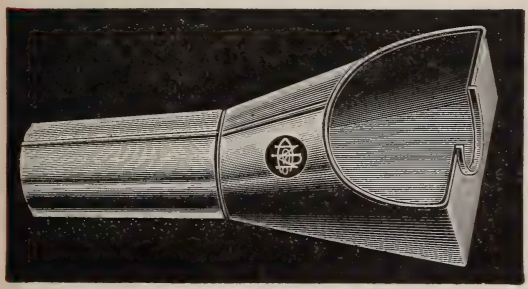
Our Conductor Heads are made extra strong, and connected with a short piece of pipe suitable for short delivery. When more lengths are required, they are arranged so as to telescope together, and are thus easier to handle.

HEAVY.

For large factories, made from the best XXXX tin.

Price, each.....$1 80



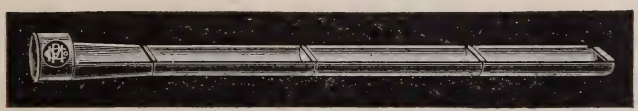


LIGHT.

For small factories.

Price, each.....$1 35

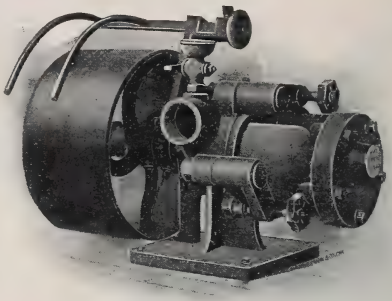
CONDUCTOR TROUGH.

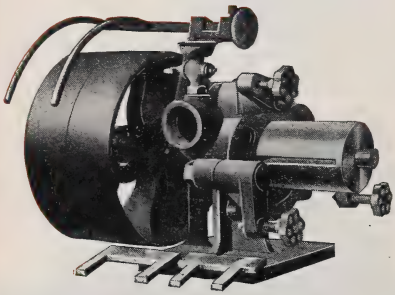


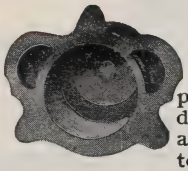
Price, 2x Tin, 4 in., per foot $0 30
Price, 4x Tin, 6 in., per foot 40

Double the lists to obtain price on above goods furnished in tinned copper.

THE SANITARY MILK PUMPS







Most creameries use milk pumps. They are the most difficult pieces of apparatus around the whole plant to take care of. The most faithful efforts are unavailing to keep them sweet and clean. They are an unavoidable nuisance.

The Sanitary Ideal is a cleanable Pump. By simply unscrewing two hand screws the entire head is removed. This releases the brass cams. When these are taken out there is no part of the pump but which can be easily gotten at with a brush.

This pump is made of solid cast steel. All parts carefully fitted. No springs to break or get out of order. No packing rings of any sort.

The cams are self-adjusting and automatic in operation.

Fitted with tight and loose pulleys of large diameter and adjustable belt shifter.

No.	Capacity.	Speed.	Connections.	Size of Pulleys	Price.
1	1 Separator	150 revolutions per min.	1¼-inch	2 x 10-inch.	$27.00
2	2 to 3 "	150 " "	1¼-inch	2 x 10 "	32.00
3	3 to 5 "	150 " "	1½-inch	2 x 10 "	38.00

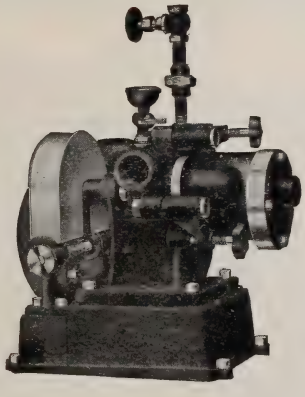
With priming attachment $2.00 extra.

EXTRAS FOR THE SANITARY PUMP.

Cylinder complete	each,	$9 40
Cylinder Case	"	6 00
" Plate	"	2 00
" " Bearing	"	1 20
" " Cap Screws	"	05
Cam Head and Shaft		8 50
Cams	complete set,	3 50
Cams Double	each.	1 50
" Single	"	1 00
Frame	"	8 75
Lock Bolt	"	50
" " Nut	"	10
" Arm	"	75
" " Screw Hand Wheel	"	40
Eye Bolt	"	20
" " Thumb Nut	"	15
Stuffing Box Nut	"	45
Pulleys, Tight and Loose	set,	3 60
Shaft Collar	each,	40
Belt Shifter, complete	"	2 25
" " Arm	"	1 25
" " Square Bar with Finger Arms and Handle	"	1 00
Priming Attachment	"	2 00
Check Valve	"	3 50

When ordering extras give size and serial number of pump.

STEAM MOTOR SANITARY ROTARY PUMPS



In designing this Steam Motor Sanitary Pump, we have followed the same general lines as our belt power pump of the same style. There is a considerable demand for a milk pump of this character, especially in skimming stations where no steam engine is required that can be operated by direct steam pressure.

It is for this class of work that this pump is particularly recommended. Ordinarily, skimming stations are only of moderate capacities, so that sizes No. 1 and No. 2 will do all of the work that will be called for in plants of this sort.

These pumps are thoroughly guaranteed, and are, we believe, more desirable in many instances than in the ordinary styles of steam pumps.

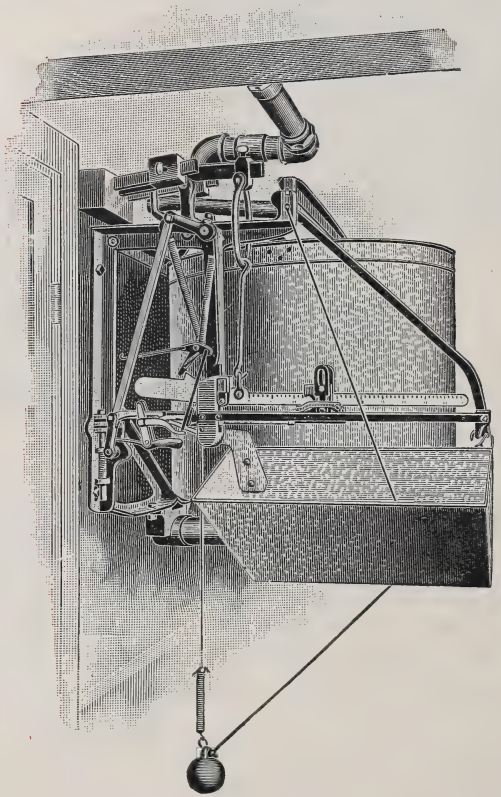
A rotary pump has always been considered the most desirable pump on the market. This pump combines all of the features of other rotary pumps on the market, with the special feature of cleanibility. There is no point in the cylinder of this pump that cannot be thoroughly cleaned after its run. It takes but a moment to loosen the clamps that hold the head in place, when the head can be removed and all of the working parts, ports, etc., exposed for cleaning.

SIZES AND PRICES

Number	Capacity, Number of Separators	Connections, Inches	Price
1	1	1¼	$55 00
2	2 to 3	1¼	60 00

THE IDEAL SKIM MILK WEIGHER.

No. 1



THE PROBLEM OF SKIM MILK DISTRIBUTION

Every Creamery that returns the skim milk to its patrons has experienced the difficulty of getting a fair and equitable distribution. Many otherwise successful and promising creameries have been entirely ruined on account of trouble growing out of this problem. It has been a source of constant friction. The late comers either had no skim milk or it was so diluted with water as to be utterly worthless.

HOW TO OVERCOME IT

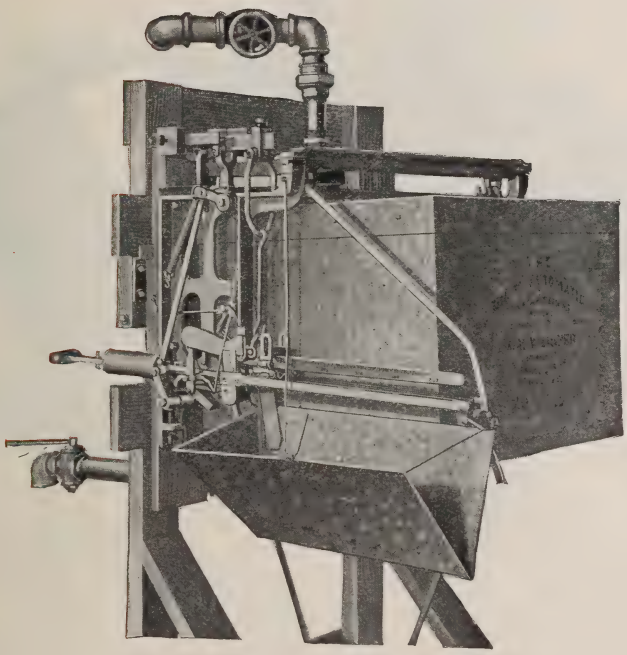
A great many different methods have been tried to overcome this difficulty. Some creameries employ a man to pump or dip all the skim milk for its patrons. This plan is expensive and at best is almost entirely a matter of guess work.

WEIGHT THE ONLY PERFECT STANDARD

It has been conceded for a long time that a mechanical distribution of some kind is the only absolutely accurate and satisfactory solution of the problem. This distribution, to be just to all, must be made on the basis of actual weight in exact proportion to the amount of milk delivered.

THE IDEAL SKIM MILK WEIGHER

No. 2



THE IDEAL WEIGHER

As its name implies, the machine actually weighs the milk. The weighing tank is adjusted so as to swing on a scale beam.

Each machine is provided with a set of V-shaped checks, put up in a convenient case. These represent a certain amount of milk.

It is absolutely impossible to get more than the amount of milk represented by the checks. The Ideal Weigher cannot be bribed. It will show no partiality.

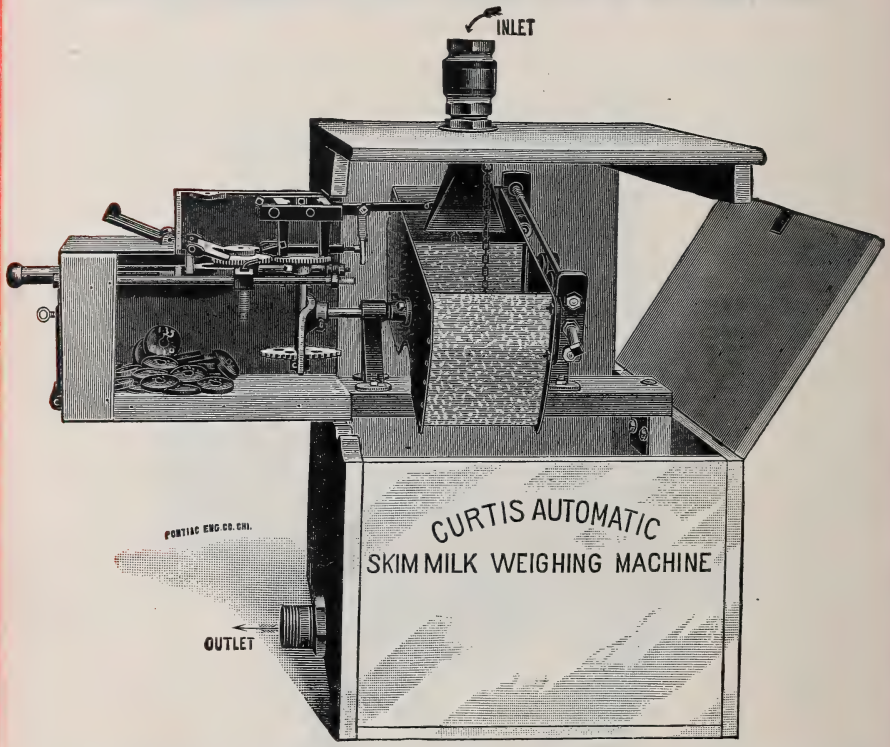
DESCRIPTION

This machine is made especially for the distribution of skimmed milk to the patrons of a creamery. It is simple in construction and easy to operate. It takes up small space and is easy to set up. It is thoroughly practical, strong and durable. It has a capacity of 10,000 pounds of milk per hour, and this can be increased if necessary. The entire machine is constructed of iron and brass, with the best chilled steel bearings on scales.

The No. 2 machine is made exactly like the Ideal No. 1, which has been on the market for several years, except that it is enlarged, the capacity greatly increased, and all parts proportionately strengthened. The square weighing can allows much larger capacity in the same space. The inlet and outlet are much larger, and the machine fills and empties very rapidly. The checks run in sizes up to 500 pounds, and the machine has ample capacity for several separators.

Price, No. 1.....$100.00
Price, No. 2..... 125.00

CURTIS' AUTOMATIC SKIM MILK WEIGHER.



The increasing demand for a low priced automatic skim milk delivery has induced us to bring out the Curtis' Automatic Skim Milk Weigher, as shown in the illustration.

This machine can be set inside or outside the building. The inside is preferable, as this lessens the danger of freezing in winter.

The skim milk is elevated to overhead tanks by pumps, the machine working on the gravity system.

Overhead tanks with jet pump or rotary pump attachment is necessary where this machine is used. A 12-inch elevation of the bottom of the tank above the valves on the weigher is sufficient.

With 1½-inch inlet, and ample outlet, the capacity is unlimited. It will handle more milk than any other weigher or pump made.

The illustration shows the tipping buckets and the possibilities of the machine, and it will readily be seen that when the skim milk flows into the buckets on one side, it will, as soon as that side has received the required quantity, oscillate to the other bucket; this lifts the chain which holds the valve and allows the milk to escape from the bucket on that side, and the bucket being thrown over the opposite bucket will fill, as the change of position of bucket brings inlet valve first on one side and then on the other.

Full and complete directions for setting and operating are sent with each weigher. Every machine is adjusted before sending out, and all that is necessary is to set it in its place according to directions, making the pipe connections, and the machine is ready for operation.

No. 1, Capacity 1 Separator	$ 75 00
No. 2, Capacity 2 "	85 00
No. 3, Capacity 3 "	100 00
Extra checks per dozen	50

THE VICTOR PASTEURIZER WITH OIL TRAP



Every progressive creameryman knows that it pays to take the best possible care of his patrons and their interests. In order to do this, it is essential that the separator skimmilk be returned to them sweet, clean, and free from disease germs.

Pasteurizing the skimmilk before returning it not only keeps it in better condition, but helps to improve the quality of the milk received, as running the hot milk into the cans sterilizes and aids in keeping them sweet and clean.

The Victor Pasteurizer with Oil Trap enables the creameryman to do this, without expense beyond the first cost of the machine.

This machine is made entirely of iron, galvanized throughout. It is self-contained, and so constructed that no steam can escape from it without first passing through the milk, consequently the steam is entirely condensed, making an exhaust pipe connection from the pasteurizer to the open air entirely unnecessary. The milk cannot froth and run over the floor as in an open pasteurizer.

It is provided with an automatic check valve, which prevents the steam from entering the milk inlet pipe should anything happen to check the flow of milk.

Only 8 inches in length by 6 in diameter, it can be thoroughly cleaned in 3 to 5 minutes, being so constructed that the rear head can be removed by loosening two thumb nuts, giving the operator easy access to the interior of the machine.

Although intended for use with exhaust steam, it is so constructed that live steam may be used if desired.

When used with exhaust steam the Victor Oil Trap prevents the oil from the engine from getting into the milk, fouling it and making the cans greasy.

It is entirely noiseless and works with great rapidity. By following the directions sent out with each pasteurizer, any intelligent person can operate it, and it is impossible to scald or burn the milk onto the inside.

The capacity is limited only by the amount of milk which is pumped into it.

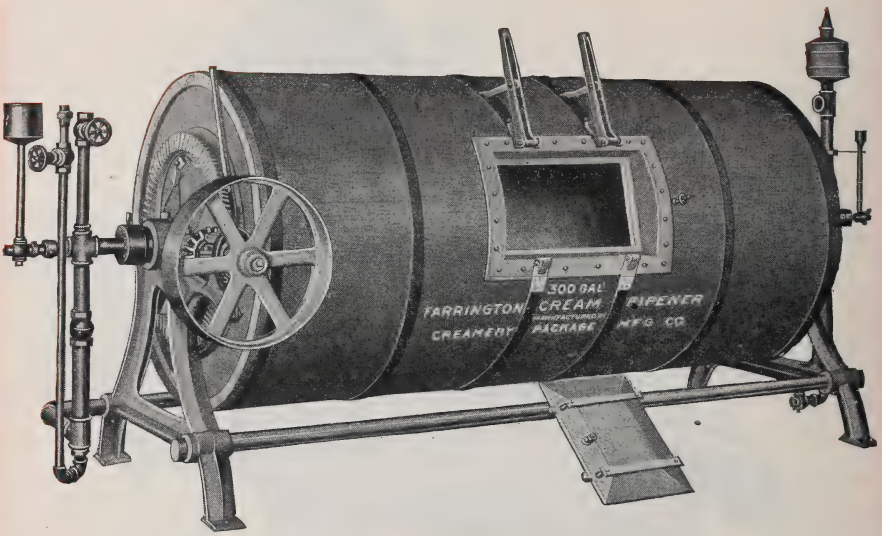
The Victor Oil Trap is used by many creamerymen for removing the oil from exhaust steam, which is then used for heating the boiler feed water.

It prevents foaming and other troubles which follow the introduction of oil into steam boilers. As effective as a filter and less expensive.

PRICES

Without Oil Trap	$25 00
With Oil Trap	35 00
Oil Trap	10 00

FARRINGTON CREAM RIPENER.



This machine has been developed as a cream ripener by practical experiments in some of the best creameries in the country. The principal point to which we call attention is that the machine affords the operator perfect control of the temperature of the cream throughout the ripening process. The machine is so constructed that a circulation of hot or cold water can be passed through the drum as desired. The water to cool or heat the cream passes through the hollow gudgeons and circulates around the inner metal jacket and as the machine slowly revolves there is a constant and thorough agitation so that every particle of cream is acted upon in exactly the same manner.

These machines will give equally desirable results whether the cream comes sweet from the separator or is gathered from skimming stations and reaches the churning plant at various stages of ascidity. We advocate the use of the acid test as soon as the cream is placed in the ripener. This will enable the operator to determine the operation of the machine so as to bring the cream to the proper condition for churning at churing time. The test should be taken frequently throughout the time of ripening so that the process can be hastened by the application of heat or retarded by the application of cold as may be necessary.

Different grades of cream require different treatment. This ripener enables the operator to secure the most desirable results without regard to these conditions.

The regular style ripener has right angle clutch belt pulley. They can be furnished, however, with pulley on main shaft of ripener if desired.

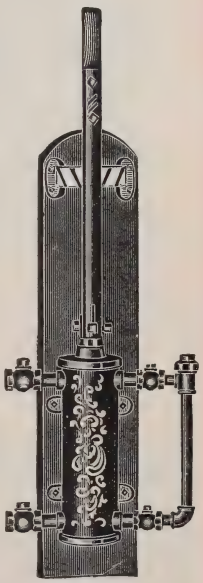
There is no limit to the opportunities this machine gives the butter maker to carry out his own special ideas on cream ripening.

SPECIFICATIONS AND PRICES F. O. B. FACTORY.

Gallons.	Weight Crated.	Length of Cylinder.	Length Between Bearings.	Height to Top of Cylinder.	Floor Space.	Outside Diameter.	Height to Cream Outlet.	Size of Pulleys.	Speed.	Price Steel Cylinder.	Price Copper Cylinder.
	lbs.	in.	in.	in.	in.	in.	in.	in.			
100	1000	63	68	45	40 x 106	28	12	16 x 4	60 x 90	$150	$175
200	1300	84	94¾	48	45 x 132	32	12	16 x 4	60 x 90	200	225
300	1800	84	94¾	48	45 x 132	39	12	16 x 4	60 x 90	250	285
400	2400	108	118¾	48	45 x 156	39	12	16 x 4	60 x 90	300	375

In ordering extras give number stamped in wood under the cover.

THE FARRINGTON AIR COMPRESSOR.



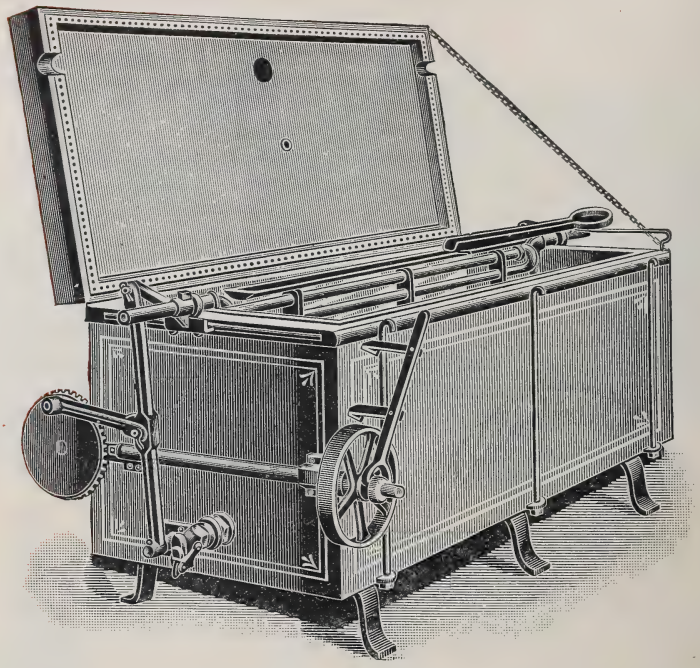
The simplest and most convenient method of conveying cream from ripener to churn is by the aid of our special air pump or compressor. This pump can be located convenient to power. A pipe connecting with air inlet in cover of ripener completes the outfit. The outlet of ripener is connected with churn by galvanized pipe. As soon as the pump is started the air pressure in ripener forces the cream into the churn. The process is simple, rapid and complete.

The air compressor is fitted with double brass cylinders, calculated to stand heavy pressure. It is furnished complete with counter shaft, connecting rod and crank plate.

SPECIFICATIONS AND PRICE.

Length of Cylinder.	Diameter of Cylinder.	Speed.	Size of Connections.	Length of Stroke.	T. & L. Pulleys.	Price.
15 in.	4½ in.	60	¾ in.	10 in.	2x24	$25.00

BOYD CREAM RIPENER



The Boyd Cream Ripener provides the essential conditions for the practice of modern cream ripening in a simple and convenient way that is easily adapted to every factory.

The cream is held in a pan surrounded by thoroughly good insulation, and the cooling is effected by means of the water coil suspended and moving through the cream back and forth, and coming in contact with every particle of the cream. This aerates and mingles the cream with the starter so that the ripening process is uniform and perfect. With cold well water cream can be cooled perfectly and evenly without ice, which is never required excepting when a very low temperature is desired.

The entire machine is constructed of the best material obtainable with the best and most conscientious workmanship that money can secure.

Price List and Specifications—Improved Copper Coil Style

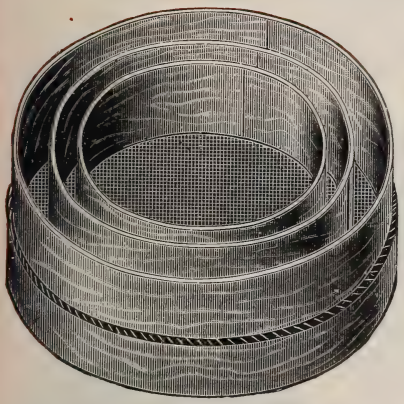
CAPACITY			DIMENSIONS OUTSIDE					
Gals. Cream	Pounds Milk	Pounds Butter	Length	Width	Height	Height to Cream Inlet	Approximate Weight	Price
100	7000	315	6′6″	3′10″	3′10″	3′5½″	900	$125.00
200	14000	630	9′0″	4′2 ″	3′10″	3′5½″	1100	160.00
300	21000	945	12′2″	4′2 ″	3′10″	3′5½″	1400	185.00
400	28000	1260	12′2″	4′6 ″	4′1 ″	3′8½″	1700	225.00
*500	35000	1575	12′7″	4′10″	4′4 ″	4′0 ″	1800	265.00
*600	42000	1880	12′7″	4′10″	4′8 ″	4′3½″	1900	290.00

Above list includes copper coils. For tin coils deduct $10 from 100 and 200 gallon, and $15 from other sizes.

Intermediate sizes made to order. Take list price of next larger size.

* Made to order only.

SIEVES



HORSE HAIR

FOR STRAINING BUTTERMILK

6 in. in diameter	$0.40
8 " " "	.50
10 " " "	.60
12 " " "	.75
13 " " "	.85

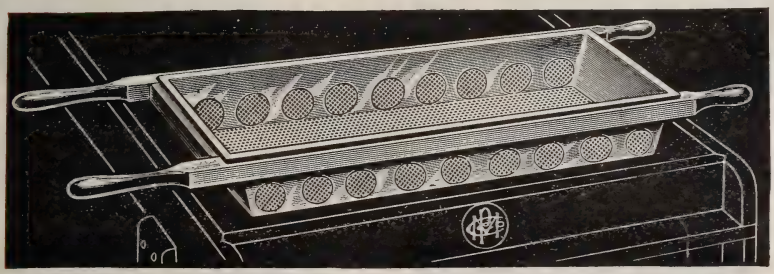
BRASS WIRE

FOR SIFTING SALT

12-in. brass wire, 20-mesh, each.....$0.60

STRAINERS

VAT



This strainer is used for straining cream or milk into the receiving vat at the factory, and is an article that every creamery-man should have. It is made of heavy tin with a perforated bottom. The frame is made of hardwood, and so constructed that it allows the strainer to set into the vat only about two inches, giving it this advantage that the vat can be filled full. It is made light and durable, and is easy to handle and clean, and will fit any sized vat.

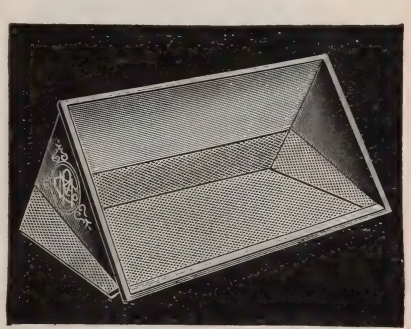
Price $4.00

SQUARE

FOR COMBINED CHURNS

Price.....each, $2.50

In ordering this strainer state style of Churn and also length and width of opening.



McLAREN'S BUTTERMILK STRAINER



Made to fit the drain of all factory Churns. The neatest and best.

Price, each.....$1.00

STRAINERS

ELBOW BUTTERMILK STRAINER.

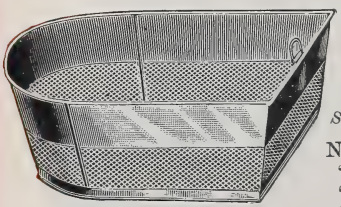
Fits all combined churns. Especially adapted for use with Disbrow churn gate.



Price, each..... .....$2 00

HANDY CHURN STRAINERS.

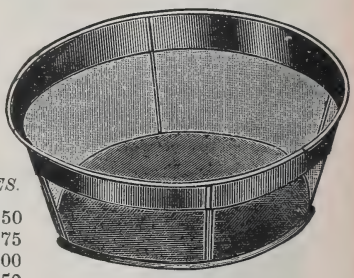
This style of strainer is preferred by many, as both sides and bottom are made of perforated tin, allowing the cream to pass through more readily.



Oblong.

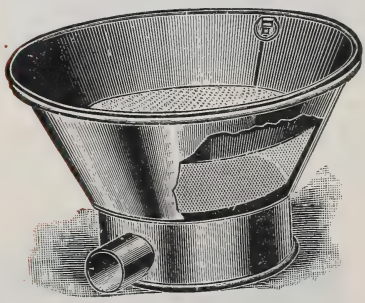
SIZES AND PRICES.

No. 1, 12 inch..$1 50
" 2, 14 " .. 1 75
" 3, 16 inch.. 2 00
" 4, 18 " .. 2 50



Round.

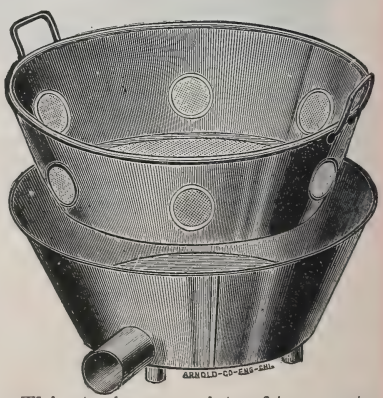
VERMONT BUTTERMILK STRAINER.



This strainer is very convenient in creameries for straining the buttermilk as it runs from the churns to the drain. The inner pan is made of perforated tin on the bottom and half way up the sides. It is placed on the floor under the churn outlet; is connected with pipe to the drain. The strainer catches any particles of butter that run out. The strainer is lifted out and the butter turned back into the churn.

Price..... $2 00
Pipe for extension, per foot ... 25

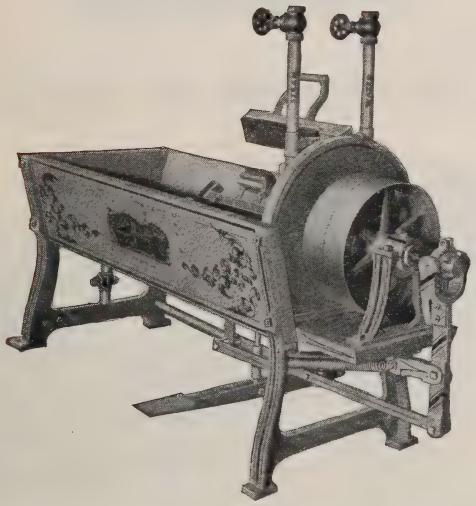
ROE'S COMBINED CHURN AND BUTTERMILK STRAINER



This strainer consists of two parts, which may be used separately or together. For straining the cream into the churn, the upper half only is used. For straining the buttermilk use the two parts together, and by means of a pipe attached to the spout conduct the buttermilk to the drain. Price, complete, $2.00

Double the lists to obtain price on above goods furnished in Tinned Copper.

20TH CENTURY MILK CAN WASHER



A power can washer is something needed in every creamery, cheese factory, and sanitary milk plant in order to keep cans perfectly clean and in sanitary condition. Our "20th Century" Can Washer is one we recommend in every particular.

All modern and up-to-date plants are washing patrons' cans as soon as they are emptied. This insures absolute cleanliness, and in many cases prevents souring of milk. This machine requires but little power to operate and washes cans both inside and out. It is so simple it cannot get out of order. An experienced operator can wash one hundred and seventy cans per hour and wash them clean. The machine is strong and substantially made, having heavy iron legs, and tank made of two-inch matched and dressed lumber, painted both inside and out. The brushes are so adjusted that they touch all parts of the can, thereby doing the work better and in much less time than can be done by hand. We ship each machine complete with tight and loose pulley, foot lever for washing inside of can, hand lever for washing outside of can, special inside bottom, breast, and neck brushes, also water and steam connections with valves. All brushes are made of material which we have learned through experience is the best adapted for this special work, and will last an indefinite length of time.

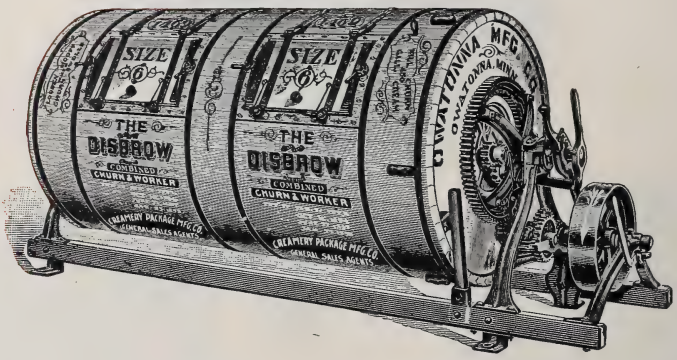
Refitting the machine with new brushes is a simple matter and not expensive. In ordering machines, state size of cans you desire to wash.

We guarantee each machine to do all we claim for it.

Price each, with one set of brushes.....$125 00

THE DISBROW

COMBINED CHURN AND WORKER



SIZES 5, 6 AND 7 HAVE DOUBLE DOORS.

protected from dirt, flies, and foul odors. A year's time always makes a change in the "profit and loss" account of a creamery, that opens the eyes of the manager and board of directors.

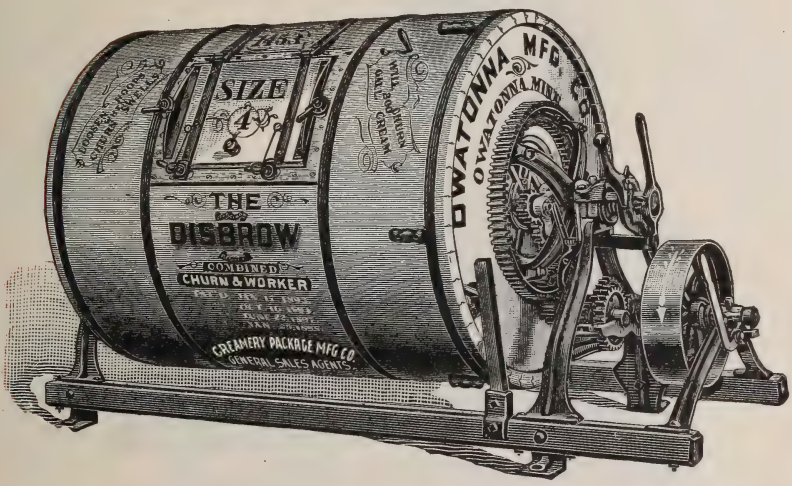
The Disbrow has been a maker of prize-winning butter from the beginning. A long list of prizes at National and State Conventions testify to its superiority as a practical butter-making machine. Among the more noticeable of the recent prizes won by this machine may be mentioned The Grand Prize at the Paris Exposition in 1900; First and Second in the National Buttermakers Educational Contests in 1902, also in 1903. The last two contests, especially, show that the Disbrow is an every-day, steady-going piece of apparatus, making possible the production of uniform high-grade butter, month in and month out.

As the prime object in operating a creamery is to make the most possible profit out of the product, it seems strange that any creamery should attempt to get along with old or out-of-date churns, which are so wasteful in labor, besides making a poorer quality of butter.

The Disbrow is made of the very best material, by the most skilled workmen. It is thoroughly well proportioned, and very durable. The large number sold and in use at the present time, the thousands of satisfied users, furnish ample proof of the practical value of this machine. It is little wonder it is called "The Churn That Works."

THE DISBROW

COMBINED CHURN AND WORKER.



"THE CHURN THAT WORKS"

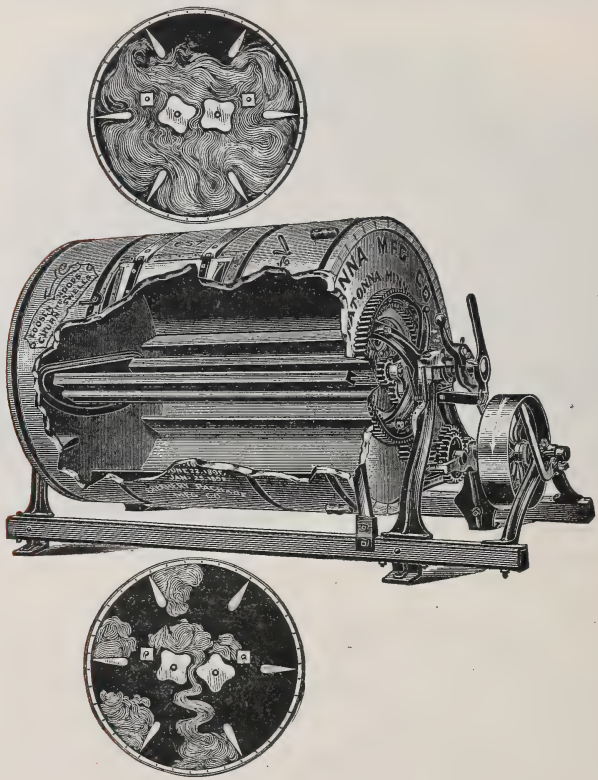
The "Disbrow" has been on the market for ten years, and has never failed to give complete satisfaction. New improvements have been made from time to time, until we have to-day a perfect Combined Churn and Butter-worker. The working principle is the same as used in the older styles, but the mechanical features are better. These improvements make the churn easier running, easier to operate, stronger, and more durable. Since the machine was introduced there has been an enormous demand for them, not only from all parts of the United States and Canada, but from England, Denmark, Sweden, and even far-away Australia.

It is not hard to understand why the Disbrow has attained such a wonderful popularity. The idea of working butter in the churn was first put to a practical application in this machine. The method used in the Disbrow is so simple that a child can understand it, yet so perfect that no changes in principle have been found necessary.

The Disbrow effects a saving in time, labor, shafting, pulleys; keeps the butter at an even temperature in hot weather while working it, inclosed and

THE DISBROW

Some say it does all we claim, others say we do not claim enough.



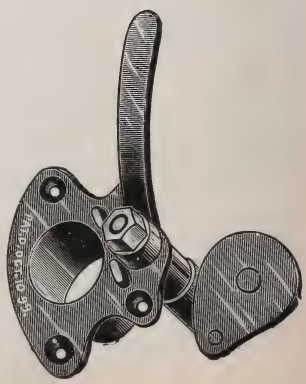
This sectional cut of the Disbrow Churn will give a clear idea of how the machine works both in churning and working. The butter is delivered to the working rollers in such moderate quantities that there is no danger of salving it and destroying the grain.

THE NEW DISBROW CHURN GATE.

The new Disbrow Churn Gate closes on inside end. Always perfectly clean.

Price, $2.00.

Furnished free on all churns.



DISBROW

Sizes, Specifications and Prices.

SIZE.	Full capacity.	Will churn.	Will work.	Length over all.	Diameter of bbl.	Length between center of feet.	Width between center of feet.	Shipping Weight.	PRICE.
	Gal.	Gal.	Lbs.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Lbs.	
B2	50	35	70	4 6	2 5	4 4	3 0	400	$ 95.00
A2	100	75	150	5 10	3 3	3 5	2 9	600	125.00
A3	145	110	220	7 1	3 3	4 8	2 9	800	135.00
3	284	220	440	7 3	4 1	5 0	3 0	1250	155.00
4	392	300	600	8 6	4 1	6 3	3 0	1450	175.00
5	490	375	750	9 9	4 1	7 6	3 0	1600	195.00
6	596	450	900	11 0	4 1	8 9	3 0	1700	220.00
7	690	500	1000	12 3	4 1	10 0	3 0	1800	260.00

PULLEYS.

Diameter, Face and Speed.

SIZE.	Style of Pulley.	Diameter.	Face.	Speed per minute.
2	Tight & Loose	12 in.	3 in.	160 revolutions
B2	Clutch	10 "	3 "	160 "
A2 and A3	"	13½ "	4 "	180 "
3 and 4	"	19 "	5 "	165 "
5, 6 and 7	"	22 "	6 "	165 "

PRICE LIST OF REPAIRS FOR DISBROW CHURNS,

SIZES 2 AND B 2.

No.	Name	Price
44	Hand wheel screw	$1.00
60	Leg on gear end	3.25
82	" " off "	2.75
62	Long Box	2.50
B62	" "	3.25
63	Lever to start rollers	.75
B64	Gear Spider	2.75
65	Hoop Clamp	.75
67	Balance Weight	.75
68	Long Box Cap	1.00
B68	" " "	1.00
69	Lower Short Box	.50
70	Upper " "	.50
71	Cross-head, gear end	2.00
72	Roller gear	1.25
73	Hand wheel nut	.75
74	Ring Spider	2.25
75	Door Frame	2.25
76	Loose Head	1.75
77	Packing Ring	1.50
78	Glass Ring	.25
79	Internal Gear	$3.00
80	Support for long Box	.75
B80	" " " "	.80
83	Drive Pinion	.75
84	Pulley 3 in. x 12 in.	2.80
85	Collar on 1 in. shaft	.50
87	Ball latch	.90
88	Shift Lever	1.75
90	Gear Shaft Box	1.00
B90	" " " Frame	1.50
92	Friction Arm	2.00
93	Pulley 3 in. x 10 in. and gear	4.25
94	Strap under pulley hub	.25
B30	Double shifting gear	1.25
B31	Clutch gear on main shaft	.75
14	Door Button	.30
	Drive shaft 1 in. x 15½ in.	1.50
	" " 1 in. x 13 in.	1.50
	Cross-head shaft 1¼ in. x 7¼ in.	1.75
	Cross-head shaft 1¼ x 10½	1.80

PRICE LIST OF REPAIRS FOR DISBROW CHURNS,

SIZES A 2 AND A 3.

No.	Name	Price
H 1	Large Driving Gear	5.00
102	" Ring Spider	6.00
A102	" " "	6.00
3	" Gear "	6.00
104	Loose Head	2.90
106	Cross Head, gear end	2.95
107	" " off end	2.75
108	Packing Ring	2.50
110	Single Roller Gear	1.65
111	Small intermediate gear	1.50
112	Large " "	1.75
113	Door Frame	2.90
14	" Button	.30
R 14	" "	.30
L 14	" "	.30
115	" Cleat	.25
116	Leg on gear end	4.25
117	" " off end	3.75
A117	" " " "	3.75
118	Outside Leg, gear end	3.00
119	Outside Leg Box	1.00
T 19	" " "	1.00
120	Box on pulley shaft	1.00
121	Friction Arm with Pinion	2.50
A 23	Long Lock Lever	2.65
123	" " "	2.65
124	Bracket for lever	.75
125	Clamp Hand Wheel	1.00
27	Support for shift rod	.25
129	Pulley 4 x 13½	3.50
130	Pinion (clutch) slow down	2.25
131	Double Pinion	2.25
132	Drive "	1.75
W 33	Plate under slide	.25
136	Box-Bottom, gear end	.75
137	" Cap " "	1.50
A 37	" " " "	1.50
138	" Bottom, off end	1.75
139	" Cap, off end	.75
140	Lever to start rollers	1.50
152	Cap Box for Pulley shaft	.75
153	Bridge Tree	1.50
M 54	Reducing Gear Lever	1.75
LT54	" " " Latch	.25
T 55	Starting Lever	1.00
T 56	Slide to move Pulley	.50
157	Slide to move Reducing Gear	.50
158	Clutch for Fork Lever	2.50
A158	" " " "	2.50
LT58	Malleable Fork for Lever	.80
W 58	" " " "	.80
161	Stuffing Box	.70
162	Stop on Barrel	.40
163	" " Girt	.40
T 64	Malleable Hinge on Door	.50
T 65	" " " Barrel	.50
164	Ball Lever	2.00
	Pulley Shaft 1¼ x 27	2.00
	Cross-head shaft 1½ x 12½	1.80
	" " " 1¾ x 14½	2.25
	Short Shaft 1 x 5½	.75
	Pulley Shaft Collar 1¼ hole	.75
	Steel Clamp Pin	.40
	Butter Rolls for size A 2 each	6.00
	Butter Rolls for size A 3 each	6.10
	Roller Shelf for size A 2 each	1.00
	Roller Shelf for size A 3 each	1.10
	Flights for size A 2, each	1.40
	Flights for size A 3, each	1.50
	Wood cross-head	1.60
	Roller Shelf Support	1.40
	Door, wood, painted	.60
	½ in. cork packing, per foot	.05

PRICE LIST OF REPAIRS FOR DISBROW CHURNS,

SIZES 3, 4, 5, 6 AND 7.

No.	Name	Price
H 1	Large Driving Gear	5.00
T 1	" " "	7.50
V 1	Large Internal Gear	20.00
2	Ring Spider	6.50
T 2	" "	7.25
R 2	" "	7.25
3	Gear Spider	6.00
T 3	" "	7.75
4	Loose Head, gear end	3.00
M 4	" " " "	3.00
5	" " off end	4.00
6	Cross Head, gear end	2.75
H 6	" " " "	2.75
T 6	" " " "	3.75
7	" " off "	2.75
H 7	" " " "	2.75
8	Packing Ring	2.50
10	Single Roller Gear	1.75
T 10	" " "	1.65
11	Double " "	2.50
T 11	Small Intermediate Gear	1.50
12	" " "	1.25
T 12	Large " "	2.00
13	Door Frame	3.00
T 13	" "	3.00
C 13	" "	3.50
14	" Button	.30
X 14	" "	.30
R 14	" "	.30
L 14	" "	.30
XR14	" "	.30

No.	Name	Price
XL 14	Door Button	$ .30
15	Cleat for Door	.25
16	Leg on gear end	4.50
H 16	" "	4.50
T 16	" "	6.50
316	" "	6.50
17	Leg off end	3.75
T 17	" "	4.75
217	" "	4.75
317	" "	4.75
18	Leg on Outside	1.75
T 18	" "	3.25
19	Box on Outside Leg	1.00
T 19	" " "	1.00
20	Bridge Tree	3.00
H 20	" "	3.00
220	Box on Pulley Shaft	1.00
320	" " "	1.00
21	Friction Arm with Pinion.	2.50
T 21	" " "	2.50
C 21	" " "	2.75
C 22	" " "	3.50
H 22	" " "	3.50
22	Friction Arm	2.25
23	Long Lock Lever	2.75
223	" " "	2.75
24	Bracket for Lever	.75
224	" "	.75
A 24	" "	.75
66	" "	.75
25	Clamp Hand Wheel	1.00
26	Catch Lever	.25
27	Support for Shift Rod	.25
29	Pulley 5 x 19	5.50
T 29	" 5 x 19, new	5.75
30	Pinion (clutch) slow down.	1.50
H 30	" " "	1.50
T 30	" " "	2.50
W 30	" " "	2.50
31	Double Pinion	2.00
T 31	" "	3.00
W 31	" "	3.00
H 31	Double Pinion	3.00
32	Drive Pinion	1.25
T 32	" "	1.75
V 32	" "	2.00
33	Cap to hold No. 56	.75
34	Dog and ring	1.50
35	Holder for Hand Wheel	.75
36	Box Bottom gear end	.75
H 36	" " off end	.75
T 36	Box Bottom gear end	$1.00
37	" Cap gear end	.75
T 37	" " "	1.25
237	" " "	1.75
38	Box Bottom off end	.75
T 38	" " "	2.00
39	" Cap off end	.75
H 39	" " "	.75
T 39	" " "	1.00
40	Lever to start Rollers	1.50
240	" " "	1.50
L 40	" " "	1.50
41	Glass Ring	.25
42	Clutch Hub	.60
43	Hoop Clamp	.80
44	Hand wheel screw, old style	1.25
H 44	" " " for 3 & 4	1.50
46	Latch for Hand Wheel	.25
47	Shifter for Hand Wheel	2.25
48	Shifter Screw Top	1.00
49	" " Bottom	1.00
50	Nut for H44	1.00
51	Malleable Clamp	.75
52	Cap Box for H20	.75
T 52	" " " Pulley Shaft	.75
252	" " "	.75
T 53	Bridge Tree	1.50
C 53	" "	1.50
H 53	" "	1.50
T 54	Reducing Gear Lever	1.75
W 54	" " "	1.75
M 54	" " "	1.75
LT 54	" " " Latch	.75
T 55	Starting Lever	1.00
T 56	Slide to move Pulley	.50
LT 56	" " "	.50
T 57	" " " Reducing Gear	.50
T 58	Clutch for Fork Lever	2.75
H 58	" " " "	2.75
LT 58	Fork for Lever (malleable)	.80
W 58	" " " "	.80
T 59	Pulley, 6 x 22	6.75
0	Washer for cross-head stud	.10
T 61	Stuffing Box	.75
T 62	Stop on Barrel	.40
T 63	" " Girt	.40
T 64	Malleable Hinge on Door	.50
T 65	" " " Barrel	.50
164	Ball Lever	2.00

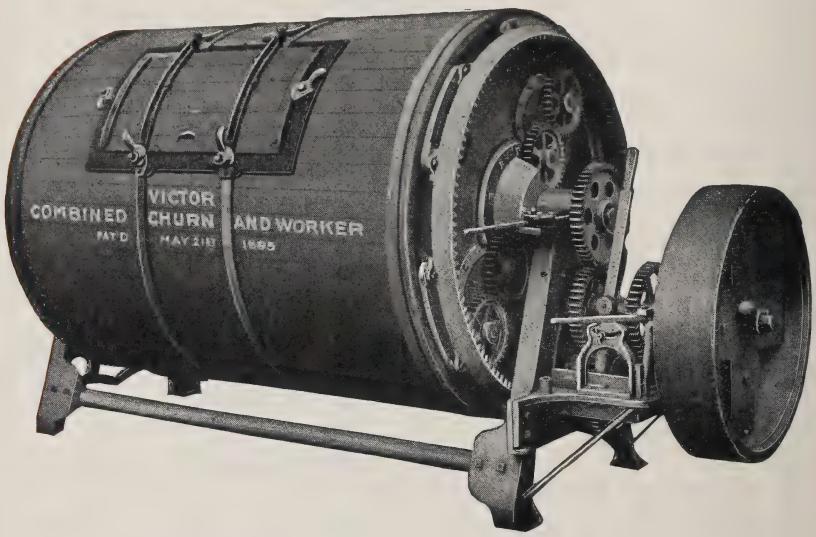
Name.	Price
Pulley Shaft 1½x30	$2.00
" " 1½x30 new	2.00
" " 1½x29 new	2.00
" " Collar	.70
Cross-head Shaft, 1½x11½	2.50
" " 2¼x15	3.00
" " 1¾x15	2.15
" " 1¾x15½	2.10
" " 1½x12½	1.80
" " 1¾x14½	2.25
Short Shaft, 1 x5¾	.50
" " 1¼x9	1.00

Name.	Price
Short Shaft, 1x5½	$0.75
Steel Clamp Pin	.40
Butter Rollers for size 3, ea.	6.20
" " " 4, "	6.40
" " " 5, "	6.60
" " " 6, "	6.80
" " " 7, "	7.00
Roller Shelves " 3, "	1.20
" " " 4, "	1.30
" " " 5, "	1.40
" " " 6, "	1.50

Name.	Price
Roller Shelves for size 7, ea.	$1.60
Flights for size 3, ea.	1.60
" " 4, "	1.70
" " 5, "	1.80
" " 6, "	1.90
" " 7, "	2.00
Wood Cross-head	1.60
Roller Shelf Support	1.40
Door, wood, painted	.60
½-in. Cork Packing, per ft.	.05
X-Yoke for No. W54	.50

Please give the size and shop number of your churn when ordering repairs. Also the figures (and letters) on the piece wanted. This will save much delay in filling orders.

THE VICTOR COMBINED CHURN AND BUTTER WORKER.



The above cut shows the "Victor" complete ready to run. The internal works consist of four rollers in two sets with which all the work of churning and working the butter is done.

STYLES C, D, E, F, G.

All "Victor" Churns above size E are provided with two doors, size E, and all smaller sizes with one door. In ordering extra churn doors carefully state whether it is a flat or an oval door that is wanted, and give the exact length and width of the door the new one is to replace.

The "Victor" Combined Churn and Butter Worker is no longer an experiment. It has abundantly proven its high qualities as a first-class butter-making machine.

The running gear of this machine is large, strong and simple, with but a minimum of friction, which promises durability and a great saving of repairs.

It is an exhaustive churner, being so arranged that the working rollers give marked assistance in the process, and the product it presents when its work is finished, speaks more loudly and positively of its high qualities than any combination of words can do.

For simplicity of construction and ease of manipulation, in strength of gearing, powers of endurance and perfection of its work it has no superior; and in the

rapidity of its butter working and the ease with which its product can be removed, it is a delight to every butter-maker who uses it.

The construction of the "Victor" is such that in working, the entire mass of butter passes twice between the rollers at every revolution of the drum, hence it is a very quick worker.

The working rollers which are stationary in churning, are put in motion ready for use when the working process is to begin, by a simple movement, and its novel method of working the butter is so complete that the grain is left intact, and the work is performed in so short a time as to cause astonishment to those who witness its operations.

When the working is finished, by a slight manipulation of gear the rollers are fixed and become elevators, which, by a half turn of the churn bring the butter in a mass to the proper position for removal, thus avoiding the necessity of reaching far into the churn in the act of removing the butter. When the rollers are thus used they bring up the entire mass of butter, leaving none in the bottom of the churn.

The "Victor" in its inside construction has no machinery whatever except its four rollers, in two sets, always bearing the same relation to each other and to the drum, in the heads of which they have their bearings, and with which they always move when the churn is in motion whether they are revolving on their own bearings, as in the working of butter, or are fixed as when churning, or elevating the butter for removal from the churn.

REMOVING THE BUTTER.

To remove the butter from the "Victor," set the rollers, revolve the churn until the door is in the proper place, and the rollers, acting as elevators, will hold the butter in position for easy removal. It will be found that when the churn is stopped for removing the butter, it will remain at the place it is stopped without props or braces, or any other aids to hold it in position. It supports itself regardless of the position of the butter.

SIZES AND PRICES OF FACTORY CHURNS.

Sizes.	Diameter.	Width bet. Center.	Length over all,	Length bet. Center.	Shipping Weight, pounds.	Capacity in pounds.	Price.
C	4 ft. 2 in.	2 ft. 4 in.	8 ft. 8 in.	7 ft.	1700	50 to 475	$155.00
D	4 ft. 2 in.	2 ft. 4 in.	9 ft. 4 in.	7 ft. 7 in.	1800	50 to 600	175.00
E	4 ft. 2 in.	2 ft. 4 in.	10 ft. 8 in.	8 ft. 9 in.	2000	50 to 800	195.00
F	4 ft. 2 in.	2 ft. 4 in.	11 ft. 4 in.	9 ft. 5 in.	2100	50 to 900	220.00
G	4 ft. 2 in.	2 ft. 4 in.	12 ft. 2 in.	10 ft. 1 in.	2100	50 to 1000	255.00

CLUTCH PULLEYS.

DIAMETER, FACE AND SPEED.

Size of Churn.	Diam. Inches.	Face.	Speed per minute.	Size of Churn.	Diam. Inches.	Face.	Speed per minute.
C	30	6	110 to 120	F	30	8	110 to 120
D	30	6	110 to 120	G	30	8	110 to 120
E	30	6	110 to 120				

"VICTOR" DAIRY COMBINED CHURN.

SIZES AND PRICES.

Sizes.	Diameter.	Length Outside.	Length over all.	Capacity, in pounds.	Shipping Weight, pounds	Price.
B	3 ft. 4 in.	3 ft. 6 in.	5 ft. 9 in.	20 to 150	500	$125.00
BB	3 ft. 4 in.	4 ft. 2 in.	6 ft. 5 in.	20 to 225	600	135.00

VICTOR FACTORY CHURN EXTRAS

FOR CHAIN AND GEARED MACHINES

For former Styles 3, 4, 5, 6, 7, 8, 9, and 10, and present Styles C, D, E, F and G

VICTOR CHAIN MACHINE

NO.		PRICE
0	Clamp Washer, each	$0 15
1	Main Gudgeon	5 00
2	Main Leg Front	8 00
3	Lower Clutch Shifter	1 00
D	Lower Clutch Shifter	1 00
4	Top Shaft Frame	6 00
5	Bottom Shaft Frame	6 00
6	11-inch Sprocket	3 00
6½	12-inch Gear	3 50
6, 7, 8, 8¼, 9, 12 and 15,	Box Caps, each	50
10	Front Roller Supports, each	3 00
10¼	Front Roller Supports, each	3 00
11	Offsets for Main Ring Gear, each	1 00
11½	Offsets for Main Ring Gear, each	1 00
13	Top Clutch Lever	1 00
00	Top Clutch Lever	1 00
14	Main Leg Rear	8 00
16	24-inch Sprocket	5 00
17	7-tooth Sprocket	1 75
17½	6-inch Gear	2 50
18	Idler Arm Support	50
26	Cover Hinges, each	35
126	Cover Hinges, each	35
130	Cover Hinges, each	35
32	Right Hand Door Fastener	30
33	Left Hand Door Fastener	30
48	Door Fastener	30
49	Door Fastener	30
35	End Door Plates, each	25
131	End Door Plates	25
135	End Door Plates	25
B3	8-inch Gears on Rollers, each	2 00
B33	8-inch Gear, large hub, drives Rollers	2 50
BB	Main Ring Gear	10 00
88	Clutch, each	75
B1	Pinion Meshing in BB	1 50

NO.		PRICE
No no.	Long Sleeve, with small sprocket attached	$3 00
D30	Door Frame, galvanized, 2 feet 6 inches in length	8 00
AD30	Door Frame, galvanized, 2 feet in length	7 00
90	Lower Clutch Lever	75
91	Arch Casting	1 00
171	Chain Idler Arm	25
17¼	Chain Idler Arm	25
172	Rear Gudgeon	2 00
62 and 63	Chain Idler	75
66	Solid Chain Idler	75
62 and 63	With wood center, complete	1 25
B44	Friction Clutch Yoke	50
45	Rear Roller Bearings	75
45X	Rear Roller Shifting Box	1 50
42	Hoop Lugs	35
	Driving Shaft	2 00
	Pinion Shaft	1 75
	Clutch Shifting Shaft	25
	Butter Rolls, each.	5 00
	Glass Holder	35
	Glass for same	10
	Roller Stuffing Box Glands, brass, threaded right and left, each	75
	Cover, complete	2 00
	Cork for Cover Frame	50
	Sprocket Chains	3 00
	Spring Socket Back of Large Hub Gear	50
	Stud Pin for B4 10-inch Gear	75
15	Box	50
14¼	Cap	50
8½	Box.	75
2½	Cap	50
7	Cap	50

CLUTCH PULLEYS COMPLETE

NO.		PRICE
	30x6 inch Pulley, complete	$12 00
	30x8 inch Pulley, complete	$16 00

EXTRAS FOR CLUTCH PULLEYS

NO.		PRICE
D2½	4-arm Flyer	$3 50
D2	Flyer, 2-arm	2 50
D3	Shoes, each	1 50
D4	Sleeve	1 50
D4½	4-arm Sleeve	$1 75
	Friction Ring	3 50
	Pulley, 30x6	6 00
	Pulley, 30x8	7 00

VICTOR GEARED MACHINE

List of Extras required to change Fargo Victor from Chain to Geared Machine

NO.		PRICE
6½	12 Gear	$3 50
8½	8½ Roller Gear	2 00
162	11 Roller Gear	3 50
B4	10 Roller Gear	3 00
B1	4 Roller Gear	1 50
161	Combined Gear	3 75
R7	7 Combined Gear	2 50
A3	Lower Gear Shifter	75
A4	Top Shaft Bracket Pulley End	2 00
A6	Top Shaft Bracket Back End	2 00

NO.		PRICE
A5	Bottom Shaft Frame	$6 00
A13	Top Clutch Lever Lock	50
A90	Lower Clutch Lever Bracket	1 00
E1	Main Gudgeon	5 00
	3 inch Pinion	75
	Driving Shaft	2 00
	Pinion Shaft	1 75
	Two Frame Braces	1 00
		$42 00

To those wanting to change their chain machine to a geared machine we will make a net price on above extras of $35.00.

VICTOR DAIRY CHURN EXTRAS

For Former Styles 1 and 2, and Present Styles B and BB

NO.		PRICE
XX	Clamp Washer, each	$0 15
O7	Main Gudgeon	3 00
O2	Main Leg Front	6 00
49	Lower Clutch Shifter	75
O6	Top Shaft Frame	5 00
O5	Bottom Shaft Frame	5 00
O40	6-inch Sprocket	2 00
O20, O24, O25 and O27	Box Caps, each	50
O9	Front Roller Supports, each	3 00
O4-2	Off-sets for Main Ring Gear, each	75
O48	Top Clutch Lever	75
O4-14	Main Leg Rear	6 00
O28	22-inch Sprocket	5 00
O29	5-inch Sprocket	1 75
O46	Idler Arm Support	50
Y6	Cover Hinges, each	35
32	Right Hand Door Fastener	30
33	Left Hand Door Fastener	30
48	Door Fastener	30
49	Door Fastener	30
55	End Door Plates, each	25
B	7-inch Gears on Rollers, each	2 00
XXX	Main Ring Gear	8 00
O1	Clutch, each	75

NO.		PRICE
1	Pinion Meshing in XXX	$1 50
O54	Door Frame, Galvanized	7 00
O47	Lower Clutch Lever	75
45	Chain Idler Arm	25
O8	Rear Gudgeon	2 00
O52	Solid Chain Idler	75
A4	Friction Clutch Yoke	50
O50	Rear Roller Bearings	75
O3	Clutch Sprocket	1 00
4	3-inch Pinion, grooved and slotted	1 50
OO26	Rear Gudgeon Box	75
O22	Front Gudgeon Box	75
	Hoop Lugs	25
	Driving Shaft	1 75
	Pinion Shaft	1 50
	Clutch Shifting Shaft	25
	Butter Rolls, each	5 00
	Glass Holder	25
	Glass for same	10
	Roller Stuffing Box Glands, brass, threaded right and left, each	15
	Cover, complete	2 00
	Cork for Cover Frame	40
	Sprocket Chains	2 00

CLUTCH PULLEYS AND EXTRAS

NO.		PRICE
...	20x4 inch Pulley, complete	$12 00
22	Flyer	2 00
30	Shoes, each	1 25

NO.		PRICE
24	Sleeve	$1 25
	Friction Ring	3 00
	Pulley, 30x4	5 00

EXTRAS FOR FORMER STYLES A1, A2 AND A3, AND PRESENT STYLES A AND AA

NO.		PRICE
C1	Front Crown Frame	$2 00
C2	Rear Crown Frame	1 00
C3	Front Leg Brace	2 50
C4	Rear Leg Brace	2 50
C5	Pinion Shaft Box	1 50
C6	Front Gudgeon	2 00
C7	False Head	2 25
R8	13-inch Sprocket	1 75
	Sprocket Chain	1 00
N9	Ring Gear Offset	25
D9	Shafting Lever Support	25
A6	Pulley Lever Support	25
A4	Pulley Lever Yoke	25
101	9-tooth Sprocket	1 00
R	Right Post Foot, iron	15
L	Left Post Foot, iron	15
O3	Box Cap	25
O10	Box Cap	25
O11	Box Cap	25
O12	Box Cap	25
O13	Lever Lock	25
OOO	Cover Frame	2 50
OOOO	Cover Frame	3 00

NO.		PRICE
	Cork for Cover Frame	$0 35
A1 and AA	Cover Cans	20
C8	Rear Gudgeon	1 50
O50	Rear Roller Bearing	75
4	3-inch Pinion	75
12	Roller Gear	1 00
12H	Roller Driving Gear	1 25
N	Ring Gear	8 00
	Hoop Lugs	25
	Gudgeon Lever	25
	Sight Glass	25
	Sight Glass Holder	25
	Main Shaft	1 25
	Counter Shaft	75
	Friction Pulley, 18-inch diameter, 4-inch face	3 00
	Friction Pulley Flyer	3 00
	Friction Pulley Wood Holers, each	25
	Friction Pulley, 3 lever	1 50
	Friction Pulley, complete	7 50
	Friction Pulley Yoke	35
	Friction Pulley Yoke, with handle	75

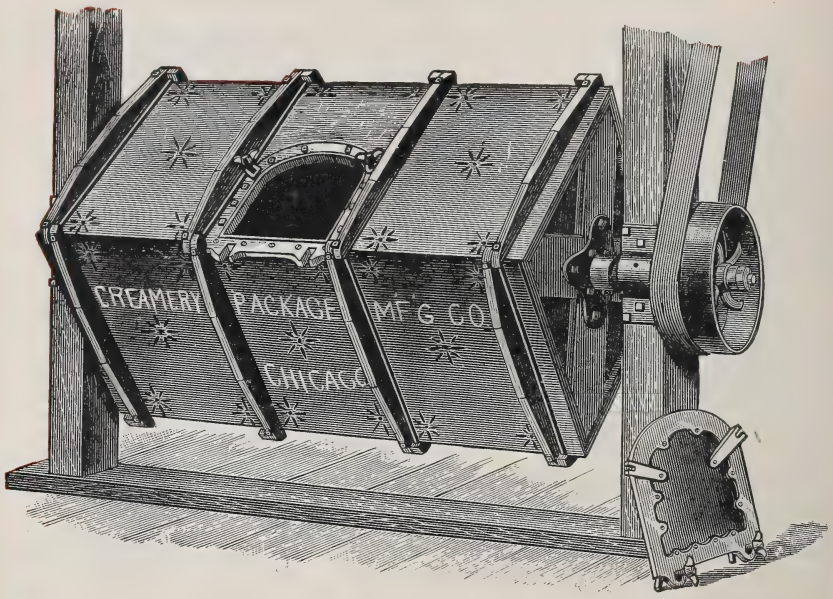
EXTRAS FOR FARGO'S BABY DAIRY CHURNS

Styles No. 1 and No. 2

NO.		PRICE
I	Main Shaft Box	$0 25
T2	Spider	1 00
2	Roller Gear	75
B	Roller Driving Gear	1 00
C	Lock Bolt	25
D	Lock Bracket	25
A	Rear Box	25
Y	Shifting Lever	25
N	Intermediate Box Cap	25
O	Shifting Bar	15
L	Lock Shifter	15
3	Lock Dog	20
M	Leg Casting	1 50
V	Gear Frame	1 00
1	16-inch Gear	2 00
4	9-inch Gear	1 00

NO.		PRICE
X	2-inch Pinion	$0 50
K	Crank	75
K1	Dog Trip	15
K2	Dog Lock	10
HK	Cover Frame	2 50
R	Right Hand Cover Can	20
L	Left Hand Cover Can	20
	Hoop Lugs, each	25
	Sight Glass	25
	Rollers, each	1 50
	Cover Straps, each	20
	Sight Glass Holder	25
7X	False Head	2 25
50	Front Roller Bearings, each	75
	Bronze Roller Bearings, each	15

SQUARE BOX CHURNS



SIZES AND PRICES

Size	Will Hold, Gallons	Will Churn, Gallons	Inches Square Outside	Inches Long Outside	Price, Pine	Price, Cedar or Ash
1	100	50	34	33	$30 00	$33 00
1½	150	75	34	44	35 00	39 00
2	200	100	34	55	40 00	44 00
2½	250	125	34	66	45 00	50 00
3	300	150	34	76	50 00	55 00
3½	350	175	34	86	55 00	60 00
4	400	200	34	96	60 00	66 00
4½	450	225	34	106	65 00	72 00
5	500	250	34	116	70 00	78 00

Churns without pulleys, list, less $2 75

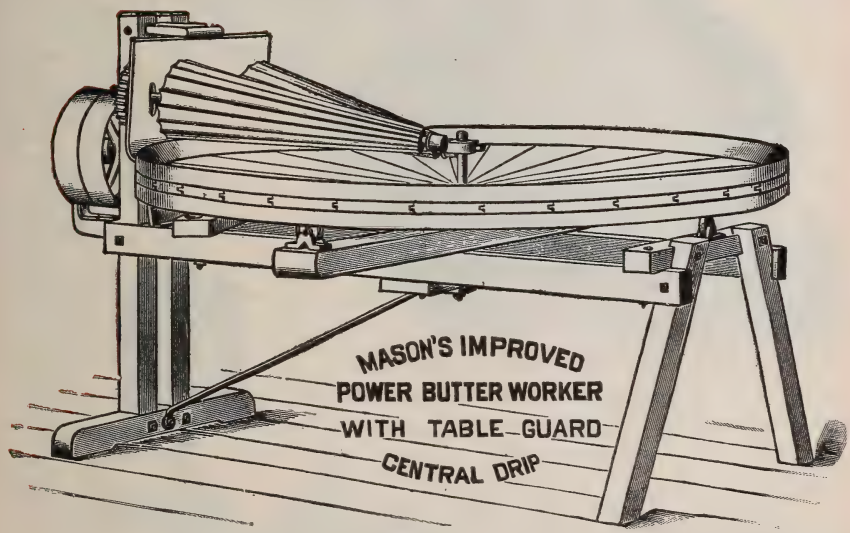
TRUNK CHURNS

100-gallon Churn, without frame $36 00
150 " " " " 42 00
200 " " " " 48 00
250 " " " " 55 00
300 " " " " 60 00
350 " " " " 65 00
400 " " " " 70 00

Write for Discounts.

"MASON'S" IMPROVED POWER BUTTER-WORKER

Number 2



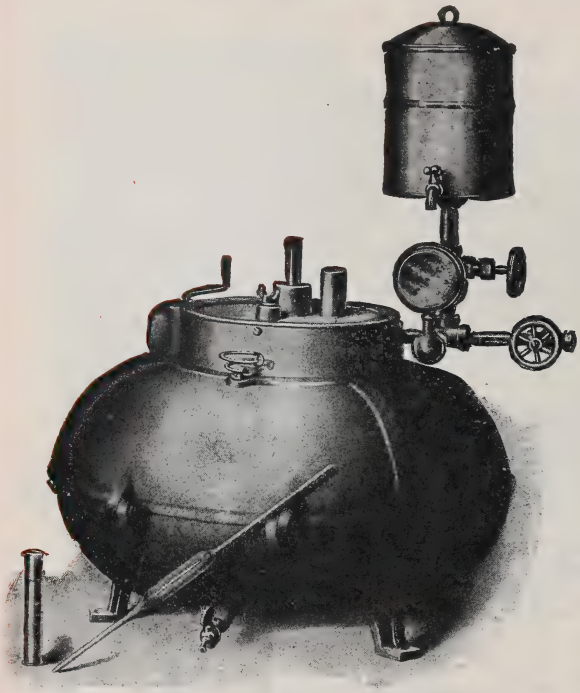
PRICE

With black castings, plain table	Weight, 330 lbs.,		$50 00
" " " table guard	"	335 "	55 00
" galvanized castings, plain table	"	330 "	60 00
" " " table guard	"	335 "	65 00

Size of pulley, 12x3 inches. Revolutions per minute, 60.

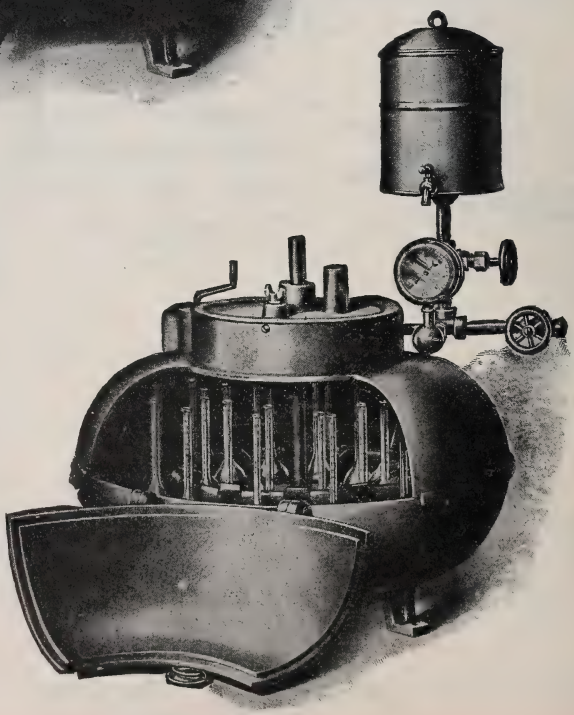
Capacity, 200 lbs.

THE WIZARD BABCOCK TESTER



We offer the Wizard Tester with the assurance that we have produced a machine that for perfect mechanical features, convenience, compactness, accuracy, and durability cannot be equaled.

Placing the small (7-inch) steam turbine on top of the frame and between the two bearings does away with all vibration and excessive wear. In so doing we have exemplified the old saying: "Runs like a top"—the power being applied in exactly the same manner. It uses only 5 or 6 pounds of steam.



All joints are planed steam-tight, no packing needed. They never leak.

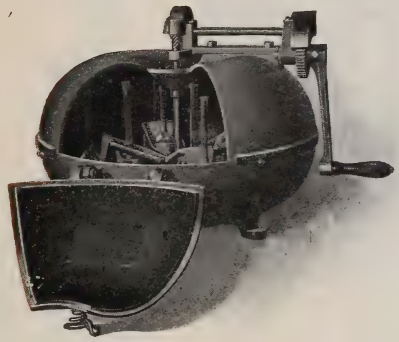
Heating of bottles is from exhaust, practically automatic, regulated by damper in outlet.

The spring brake stops the bottle head quickly, without danger of breaking bottles, with no waste of steam.

Every part can be drained completely.

Made in 24-bottle size only. Price .$35 00

THE TWENTIETH CENTURY BABCOCK HAND TESTER



The hinged cast-iron cover opens downward on a spring. It cannot break. The Twentieth Century Babcock Hand Tester is operated with spur and worm gear, which gives the high speed necessary for a perfect test.

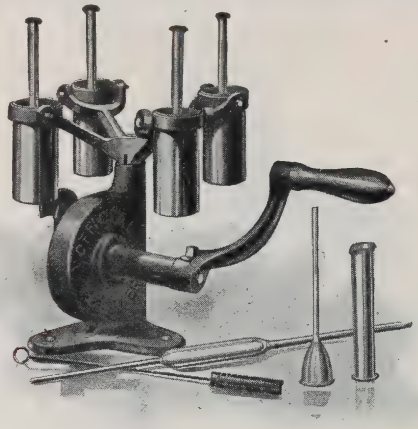
A speed of from 900 to 1000 revolutions per minute can easily be obtained. It fills completely the demand for a high speed, accurate, durable, easily operated hand power tester, so that either those that sell or purchase milk can tell its true value. It is indispensable in dairies, creameries and cheese factories which are without the necessary steam apparatus for running steam turbines. The pockets are made of seamless brass, exactly the same as on large testers. The outside gearing is encased and at the top of the machine.

We call your attention to the covered gears, compactness and neat construction of the machine. All gears are cut in special milling machine, not cast; are absolutely accurate, and therefore noiseless in operation. The perfect enclosure of the bottles does away with danger from flying acid and glass should one of the bottles break. It is fitted with bearings both top and bottom, which is a great advantage over other makes. The swing of the bottles is wide, owing to the machine being over 16 inches in diameter, thus making a perfect test easy to obtain.

SIZES AND PRICES

6-bottle	$9 00
8-bottle	10 00
10-bottle	12 00
12-bottle	14 00

THE "OFFICIAL" BABCOCK MILK TESTER



In placing the "Official Tester" on the market we feel that we are supplying a machine that has long been needed by progressive dairymen.

There has been a demand for a small, perfectly accurate, easy running, low-priced hand tester ever since the Babcock system of milk and cream testing was discovered.

The "Official" Babcock Tester is the outcome of this demand. By its aid the dairyman can with small expense know just what each cow in his herd is doing in the way of paying for her board. He can detect losses in skimming milk in his hand separator, and can keep a check on the milk or cream he sells. By using the test regularly the dairyman can save its cost many times over each year.

The "Official" is also a very convenient machine for use in hotels and restaurants and in the laboratory.

It has enclosed cut gears and swinging brass bottle cups. Runs without noise, jar, or friction. Being fitted with thumb screw and clamp, it can be clamped to table or screwed down, just as the operator may wish. It is only 9 inches high.

The bottle head and bottles are removable—in fact, the whole apparatus can be taken apart instantly and packed in small compass. With the instructions furnished any one can do accurate testing.

Prices include full directions for making test, acid measure, pipette, test bottles, test bottle brush, and acid.

NET PRICES

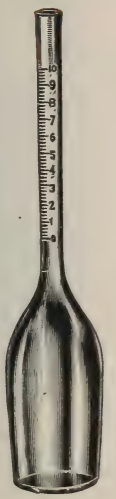
No. 1—2-bottle, complete for testing milk .....each, $4 00
No. 2—4-bottle, complete for testing milk .....each, 5 00
No. 3—2-bottle, complete for testing milk and cream.....each, 4 50
No. 4—4-bottle, complete for testing milk and cream.....each, 5 50

MILK TEST SUPPLIES

GLASSWARE



17½ c. c. Pipette



Milk Bottle



Cream Bottle



Greiner's Pipette



Acid Measure



Dividers



Funnel



5-9 c. c. Pipette

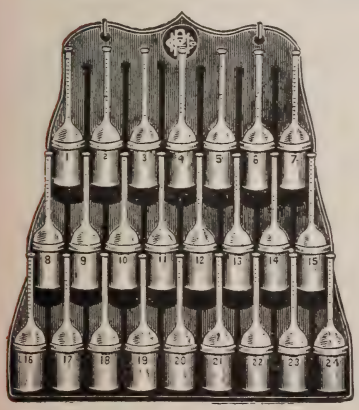
PRICES

Milk Bottles	each, $0 ..	per dozen, $....
Cream Bottles	" ..	" ....
Skimmed and Buttermilk Bottles	" ..	" ....
Milk Bottles for Beimling Tester	" ..	" ....

Our Test Bottles are all frosted on the breast of bottle so that they can be numbered with a lead pencil.

Acid Measure	each, $0 ..	per dozen, $....
Funnels for Babcock Test Bottles	" ..	" ....
17½ c. c. Pipette	" ..	" ..
15 c. c. Pipette for Beimling Test Bottles	" ..	" ....
5-9 c. c. Pipette	" ..	" ....
Greiner's Pipette	" 1 00	⅓ size....each, 1 00

GREINER PIPETTE EXTRAS



Rubber Bulb	each, $0 20
Pipette Bulb	" 35
Large Glass Bulb	" 30
Rubber Connection	" 15

Our Glassware is all tested in our laboratory and we guarantee it correct

DIVIDERS

The reading of the test is facilitated very much by the use of the Dividers. It also eliminates the liability of error in reading the test.

Price.....per pair, $0 40

BABCOCK TEST BOTTLE RACK

This rack is made of tin and hangs flat against the wall, but the bottles stand upright and are easily filled. The racks are made in all sizes, to suit the number of patrons at any factory.

SIZES AND PRICES

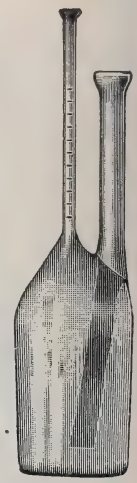
24-Bottle Rack	each, $1 50
26 " "	" 1 75
42 " "	" 2 00
54 " "	" 2 25
64 " "	" 2 50

For Prices not given see our Monthly Price Current

DOUBLE BORE SKIM MILK TEST BOTTLES.



WAGNER'S AND OLSON'S TEST BOTTLE



For accurately determining the percentage of Fat left in skim milk or butter milk.

Reads down to one one-hundredth of one per cent. fat.

One tenth of one per cent. can be read as accurately and as easily as one whole per cent. in the ordinary Babcock bottle.

Tests cannot be spoiled by overflowing with hot water.

Uses but one-half as much acid as the ordinary Skim-milk bottle.

Invaluable to any owner or user of a cream separator, as it tells him just how to regulate the capacity of his machine so that the loss in the skim milk will be reduced to a minimum.

Price.....each, $0 60
" .....per doz., 6 00

THE IDEAL BABCOCK BOTTLE TESTER.





For testing the accuracy of the graduations on the neck of the bottles.

We have devised this tester for accurately and rapidly testing the graduations in the neck of the Babcock Milk Bottles, and it supercedes the unhandy and difficult mercury test heretofore so universally used.

This little instrument will test for two points without removing it from the bottle, and is always ready for use without auxiliary attachments, such as pipettes, mercury, corks, etc.

To make a test it is only necessary to fill the bottle with water (or milk, which is preferable) so that highest point of the liquid is even with the o mark.

Then slowly lower the tester into the bottle until the liquid rises half way between the two sections, and at that point should be the 5 per cent. mark.

After that point is tested for and established, slowly lower the entire tester into the bottle so that the liquid rises over the top of the upper section about one-eighth of an inch, and if the bottle is correct the top of the liquid should be at the 10 per cent. mark.

Endorsed by all creamery men who have seen and used it.

Price milk bottle.....each, $0 75
Price cream bottle.....each, 1 00



AUTOMATIC PIPETTES

WAGNERS' "UP-TO-DATE"

TO USE WITH THE BABCOCK TEST

The Neatest and Most Convenient Pipette Ever Put on the Market

DIRECTIONS

The mouth is applied to the slanting tube and milk drawn up until it is above the glass cock, then the cock is closed and the measured milk is put in the test bottle. Should there be an overflow same will be caught in the large glass overflow bulb or extension of slanting tube. This overflow bulb can be detached from the Pipette and emptied when desired.

Price, complete ....each, $1 25

EXTRA

Overflow bulbs.....each, $0 35
Pipettes .....each, 85
Rubber stoppers .....each, 10



COMBINED ACID BOTTLE

Just the simplest thing imaginable, and it always works. Tip the bottle up until the pipette at the side is full up to the mark near the top, and when the bottle is returned to an upright position, the surplus flows back into the bottle again and the pipette is left full up to the mark, and contains exactly 17.5 c.c. The contents of the pipette may then be emptied by turning the cock at the bottom. This apparatus has the advantage of having no rubber connections and bulbs to wear out, and it is very simple and easy to work.

Price .....each, $3 00

SCOVILLE MILK SAMPLER



It takes the sample from the top to the bottom of the milk in the weigh can, thus giving a fair sample of the whole body of milk. When it reaches the bottom the movable cap closes, retaining the sample, which can then be discharged into the sample receptacle. Price, $2 00

MILK THIEVES



This is a very convenient sampler, and gives excellent satisfaction.

Price.....$1 00

HYDROMETER

Price .....each, $0 75



For testing strength of acid.

Swedish Acid Tester .....each, $0 35

PRESERVATIVES FOR MILK SAMPLES

IDEAL CORROSIVE SUBLIMATE TABLETS

The only perfect Composite Test Preservative on the market. Being made up in tablet form, they are very handy to use. They are guaranteed to properly preserve the samples for the time stated. All things considered, the "Ideal" Corrosive Sublimate Tablets are the most satisfactory Composite Test Preservative on the market. "Once used always used."

SIZES AND PRICES

	1 M lots, per M	3 M lots, per M	5 M lots, per M
Small size,—to preserve ½ pint samples 4 weeks or 1 pint samples 2 weeks	.....	.....	.....
Large size,—to preserve 1 pint samples 4 weeks or 1 quart samples 2 weeks	.....	.....	.....

Send for free samples. We recommend the large size for general use.

Composite Test Preservative, liquid.....per pkg., ...
Bichromate of Potash, powdered.....per lb., ...
" " " in 10 lbs. boxes..... " .....
Farrington's Potassium Bichromate tablets.....per M .....

LEWIS LYE

Used to cut soured samples of milk and make it fit for testing. Some use it entirely instead of any kind of a preservative.

Price, per single pkg.,.....per case of 4 doz. pkgs.....

"BABBITT'S" POTASH

Per lb. cans.....$.... Cases of 24 1-lb. cans.....per can, $....

See Monthly Price Current for Prices.

DAIRY AUTHORITIES

American Dairying—Gurler	cloth,	$1 00
Cheese Making—Decker	cloth,	1 75
Elements of Dairying—Decker	cloth,	1 00
A B C in Cheese Making—Monrad	paper,	50
A B C in Butter Making—Monrad	paper,	50
Cheese Making in Switzerland—Monrad	paper,	50
Pasteurization and Milk Preservation—Monrad	paper,	50
Principles of Pasteurization—Monrad	paper,	50
Testing Milk and Its Products—Farrington & Woll	cloth,	1 00
Shoenman's "Butter Fat and Dividend Calculator"	cloth,	2 00
Outlines of Dairy Bacteriology—Russell	cloth,	1 00
Bacteria in Milk and Its Products—Conn	cloth,	1 25
Feeds and Feeding—Henry	cloth,	2 00
Creamery Patrons' Handbook—C. Y. Knight	cloth,	1 00
Roper's "Engineers' Handbook"	cloth,	3 50
Roper's "Care and Management of Steam Boilers"	cloth,	2 00



Floating.

THERMOMETERS, ETC.

COMMON FLOATING

8-inch	each,	$0 25
8-inch	per dozen,	1 75
8-inch, by mail	each,	30

NICKEL-PLATED FLANGE

8-inch	each,	$0 25
8-inch	per dozen,	1 75
8-inch, by mail	each,	30
10-inch	each,	30
10-inch	per dozen,	2 00
10-inch, by mail	each,	40
8-inch, "Ideal," Oxidized	each,	50

NEW FLOATING THERMOMETER



Tested and guaranteed correct; each, 50c.; per dozen, $5 50

TEST THERMOMETER





Flange.

Designed for testing small thermometers. We wish to call special attention to a new 12-inch floating thermometer, which we are having made specially for us. It is graduated from 32 to 212 Fahr., and is absolutely correct. *Every creamery and cheese factory should be provided with one.* We furnish them in one size only. *Thoroughly tested.*

THE HYGROMETER

For Cheese Curing Rooms and Cold Storage Houses



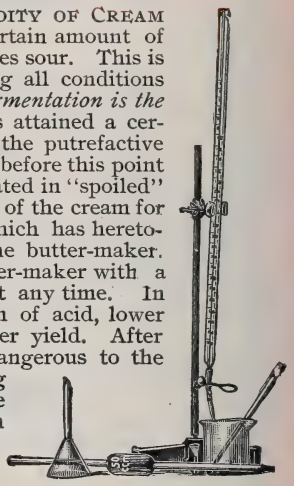
The importance of maintaining a proper degree of humidity of the atmosphere of cheese curing rooms and cold storage houses is beginning to be well understood by all intelligent cheese makers. A proper and even temperature should be held as near as possible, and THE ATMOSPHERE SHOULD CONTAIN A PROPER AMOUNT OF MOISTURE. These being the essential points, we wish to call attention to the application of an instrument called the Hygrometer, which can be used in connection with any good thermometer to assist in effecting the desired result. The Hygrometer hung in a curing room will indicate the moisture in the air; if it stands at 50° and a thermometer beside it shows 72°, then the air is in proper condition for curing full milk cheese. For skims, a lower temperature and a greater degree of moisture. Adapt the application of the instrument to meet circumstances, and when necessary, sprinkle floors, ventilate, or by other means increase or diminish moisture. As a rule the air of curing rooms is too dry; cheeses shrink too much in weight and crack; the use of this simple instrument will prevent this and save loss. The cured condition of the cheese will also be greatly improved. In COLD STORAGE rooms it is very desirable to know the degree of moisture. For this purpose the Hygrometer will be found invaluable.

Price of Hygrometer, polished wood frame, about 5½ inches in diameter.....$2 50

Sent by mail on receipt of $2.75.

Above goods, if sent by mail, at purchaser's risk.

MANNS' ACID TEST



PROF. MANNS' ACID TEST, FOR TESTING THE ACIDITY OF CREAM AND MILK.—During the process of ripening cream a certain amount of acid is developed, or, in other words, the cream becomes sour. This is due to the presence of the lactic ferment, which, finding all conditions favorable to its growth, develops rapidly. *The lactic fermentation is the one desired in the ripening process.* After the cream has attained a certain degree of acidity the lactic fermentation ceases and the putrefactive fermentation begins. If the cream should not be churned before this point is reached, the effects of the second fermentation is illustrated in "spoiled" cream. To decide, therefore, upon the proper condition of the cream for churning is a very important and very delicate point, which has heretofore been left to the senses of taste, smell and sight of the butter-maker. The object of introducing this test is to furnish the butter-maker with a means of determining the *exact* acidity of his cream at any time. In churning cream that has not attained its proper strength of acid, lower the temperature, thus saving a serious loss in the butter yield. After cream has attained an acidity indicated by 42 c. c. it is dangerous to the flavor of the product to allow the cream to stand long before churning. In cheese-making the process can be successfully used to ascertain when milk is ripe enough to add rennet.

Price complete.....$5 00

EXTRAS

Burette, with pinch cock, each....	$2 00	50 c. c. pipette, each	$ 50
" stand, each.....	1 00	Beaker glass, "	20
" clamp "	50	Stirring rod, "	10
Neutralizer, per gal.....	1 00	Funnel, "	20
Indicator, 2 oz. bottle, by mail.....			40

FARRINGTON'S ALKALINE TABLETS

For Testing the Acidity of Milk or Cream



Apparatus for determining the exact acidity of milk and cream, used especially in cream ripening.

These tablets have been used successfully in the daily work of many men who handle milk and cream. They have proved to be a means by which the dairy-man is constantly learning more about his business. He is therefore more prosperous, as they aid him to get top instead of fair or medium prices for his goods.

As a simple and practical guide for showing the exact sweetness or sourness of milk or cream, they have demonstrated that an acidity tester is as valuable as any other tester for the butter-maker, cheese-maker, milk-dealer and dairy-man.

THE USES OF THE TABLETS

Among the many uses of the tablets are the following:

1. **Selecting sweet milk** for the creamery, cheese factory, milk pasteurizer or milk dealer.
2. **Testing the acidity of cream** for churning at home or at the factory.
3. **Tracing the rate of ripening** of cream, to show what treatment it is necessary to give the cream in order to get the proper acid condition for churning AT THE PROPER TIME.
4. **To show whether it is safe** to mix two lots of cream.
5. **To test the acidity of whey**.

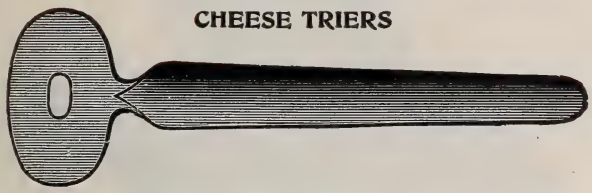
PRICES

Small outfit complete, with 100 tablets, 20 c. c. vials and 17.6 c. c. pipette.....$ 85			
Large outfit complete, with 1,000 tablets, 100 c. c. cylinder and 17.6 c. c. pipette.. 2 75			
100 tablets.....$ 50		20 c. c. vial, each	10
1,000 "	2 00	100 c. c. cylinder, each.....	95
17.6 c. c. pipette, each..... 25c.			

TRIERS

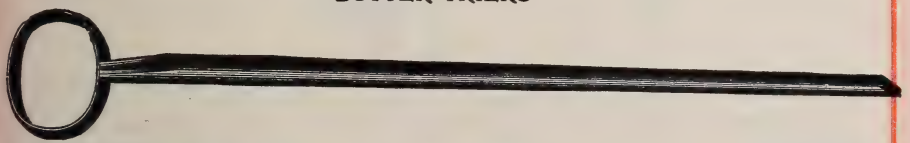
BUTTER AND CHEESE

CHEESE TRIERS



Solid cast steel, 6 x ⅝ inch, flat handle	each,	$0 50
5 x ¾ inch, extra finished silver steel	"	95
6 x ¾ " " " " "	"	1 00
"T" handle, " " " "	"	2 00
Same, with leather case	"	2 50
Extra, if nickel-plated	"	15

BUTTER TRIERS



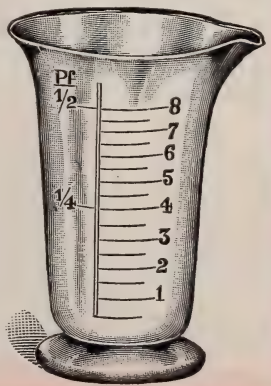
No. 1. 18-inch, forged steel	each,	$1 75
No. 1. 21 " " "	"	2 00
Extra, if nickel-plated	"	35



No. 2. 18-inch, polished steel, nickeled	each,	$1 00
No. 2. 21 " " " "	"	1 25
No. 2. 24 " " " "	"	1 60

GRADUATES

Our Graduates are tested and are thoroughly accurate.

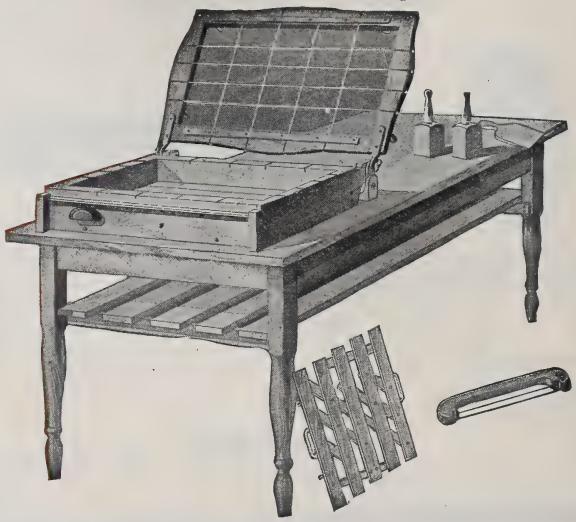


PRICE

1 dr.	each,	$0 20
2 oz.	"	25
4 oz.	"	30
8 oz.	"	45
12 oz.	"	60
16 oz.	"	75

ACME BUTTER PRINTER

A Printer that Prints each Brick Square and True



This cut represents an entirely new and very complete machine for making Butter Prints, which is much superior in its workings to anything before offered both in completeness and rapidity of work. It is provided with a convenient table, with shelf underneath for holding tools, is easily adjusted and handled. It is made for two-pound, one-pound and half-pound prints as desired; will put out 25 pounds of half-pound or one-pound prints, or 30 pounds of two-pound prints, according to construction, at one operation of the machine, which requires but a very few minutes, and a great feature of its work is a result never approached by any other machine ever invented for this purpose. It does not shrink the butter any more than the process of packing in tubs.

It is one the most rapid and perfect Butter Printers ever placed on the market.

It is one of the few Butter Printers ever offered that will print so large a quantity at one impression.

It is one of the few Butter Printers ever invented that will leave the prints on a tray so that they can be conveniently removed to the cooler before wrapping, when necessary, using the tray as a carrier.

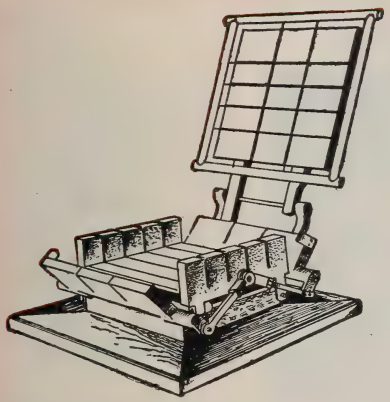
The tray as seen in the cut leaning against the table leg, is an adjustable rack which by a slight movement can be so opened as to separate the prints, thus preventing the danger of mussing them in handling. Four of these trays go with every machine. By the side of this tray, on the floor in the cut, is seen the trimmer with which the top of the mass of butter is leveled after being packed in the box ready for cutting into prints. One of these trimmers goes with each machine. On the table back of the print box and cutter can be seen the two packers and ladle which go with every machine sold. Directions for operating accompany each printer.

SIZES AND PRICES OF BUTTER PRINTER

No. 1 Printer, for 15 Two-pound Bricks 6x3⅜x3 inches, at one impression.....$35 00
No. 2 Printer, for 25 One-pound Bricks 2½x2½x4⅝ inches, at one impression.. 35 00
No. 3 Printer, for 50 Half-pound Bricks 2½x2½x2$\frac{5}{16}$ inches, at one impression.. 38 00
No. 4 Printer, for 50 Half-pound Bricks 1¾x1¾x3½ inches, at one impression.. 38 00
No. 5 Printer, for 16 One-pound Bricks 2½x2½x4⅝ inches, at one impression... 30 00
No. 6 Printer, for 9 One-pound Bricks 2½x2½x4⅝ inches, at one impression... 28 00

Other sizes made to order when desired.

Extra Butter Trays, 50 cents each. Extra Butter Packers, 35 cents each. Extra Butter Ladies, 25 cents each. Extra Butter Trimmers, 25 cents each. Plain Followers and Frames go with each machine. Carved Following Boards furnished when ordered, at reasonable cost.



THE AMERICAN BUTTER PRINTER

This is a new printer, very unique in design. It is easy to manipulate. Prints rapidly and leaves the butter in good shape, either to wrap or put in cooling room.

This machine is just what the name implies, a printing and weighing machine, making each print of accurate weight and of a perfectly true and uniform style.

Each machine is supplied with four following boards or trays which are used in removing the butter from the machine, and, if desired, butter can be left on these and placed in the refrigerator to thoroughly harden before being wrapped for shipment.

SIZES AND PRICES

10-lb	$20 00
15-lb	25 00
20-lb	27 50
25-lb	30 00
Size of print, 2½ x 2½ x 4⅝.	
20 ½-lb	25 00
30 ½-lb	27 00
40 ½-lb	30 00
50 ½-lb	$32 50
Size of print, 2½ x 2½ x 2 5/16.	
25-lb., special size	30 00
Size of print, 2⅜ x 3¼ x 3¾.	
50 ½-lb., special size	32 50
Size of print, 2⅜ x 1⅝ x 3¾.	
15 2-lb., special size	32 50
Size of print, 6 x 3⅜ x 3.	

Each Factory Printer sent complete with four trays, one butter packer, one butter ladle, and one trimmer.

Extra Trays, each	$0 50
Extra Cutting Wires, each	02
Large and Substantial Printing Tables, each	$2 50

THE WIZARD BUTTER PRINTER



The Wizard is intended for use in dairies and small creameries. It is simple and very rapid; cuts each print square and true, and uniform in weight.

The box is packed full of butter, which is then struck off even with the top. The following board is swung into place, and the box raised on the upright standards, forcing the cutting wires through the butter and cutting it into uniformly perfect prints. The butter does not drop from the box, consequently the prints are not damaged.

SIZES AND PRICES

5-lb	$6 00
8-lb	8 00
Size of prints, 2½ x 2¼ x 4⅝.	
5 2-lb	8 00
10 ½-lb	$7 00
16 ½-lb	10 00
Size of prints, 2½ x 2½ x 2 5/16.	
8 2-lb	10 00

Special sizes made to order.

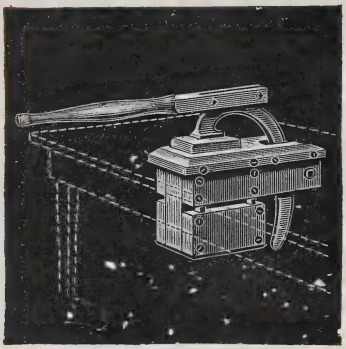
PRINT BOARDS

We are prepared to make carved print boards to go with the American or Wizard Printers, of either names, initials, or monograms, for which we make a nominal charge. The new feature in this respect is that the letters are raised on the wood instead of being cut into the wood, and thus pressing the letters into the butter instead of raising on same. Any one accustomed to print butter will at once see the advantage of this, as the design will not become obliterated in packing and shipment.

BUTTER PRINTERS

"IDEAL LEVER"

THE ONLY SUCCESSFUL PRINTER



FOR COLD STORAGE BUTTER

Above we illustrate one of our newest printers. It is adjustable, so that it will print either pounds or half pounds. It is self-gauging, making the prints neat and also uniform in weight.

This printer is intended for use in creameries, but more especially for printing storage or tub butter. It is very rapid and does excellent work.

To Operate, you press the box full of butter, which is level with the top of the table, working it in solid, using the lever; you then stroke it off level with a paddle, then raise the lever and throw it all the way back, which raises the butter out of the box nicely printed.

There are screws in the bottom of the print block, and also in the bottom of the follower, for adjusting the weight of the butter, which it does more exactly than if weighed. Prints are the same size as those of the I X L Printer.

SIZES AND PRICES

1 lb. or ½ lb. printer	$10 00	2 lb. printer	$13 00
1 lb. or ½ lb. printer, complete with table	15 00	2 lb. printer, complete with table	18 00
		10 lb. " " " "	25 00

EXTRAS

Handle	$0 75	Initial Blocks	$1 00
Plunger blocks	10	½ lb. plates for blocks	20
Plunger Arm	1 00	1 lb. " " "	25
Sheaf Blocks			1 00

I X L SELF-GAUGING

SIZES AND PRICES

With one box and print (either 1 lb. or ½ lb)	$10 00
With both 1 lb. and ½ lb. boxes and prints	13 50
With both 1 lb. and 2 lb. boxes and prints	13 50
For 2 lb. printer	11 00

$1.00 extra for initials or monogram.

Regular sizes: ½ lb. printer, 3⅝ in. long by 2¼ in. wide; 1 lb. printer, 4¾ in. long by 2½ in wide; 2 lb. printer, 6 in. long by 3¼ in. wide. Special sizes made to order.

PRINTER EXTRAS, I X L

Rods	$0 75	Set M. & F. Hinges	$0 50
Frames	3 50	Set (2) Thumb Screws	05
Spur Piece	25	1 lb. Hopper	2 50
Set Screw	05	2 lb. "	3 00
Handle, (wood only)	40	Catch	05
" complete	75	Stem	20
Plunger with plate, ½ lb	20	Base Board	25
" " " 1 lb	25	Lever Hinge, complete	75
" " " 2 lb	35	Wrench	20
Latch	10	½ lb. Attachment	3 50
Sheaf Block	1 00	1 lb. "	4 00
Initial "	1 00	2 lb. "	4 50

LAFAYETTE

Handle	$0 75	Sheaf Blocks	$1 00
Plunger Blocks	10	Initial Blocks	1 00
Plunger Arm	1 00		

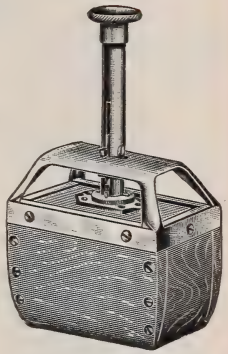
Name of person or farm, 5 to 10 letters, 15 cents per letter; over 10 letters, 13 cents per letter, including border. Monograms and special designs quoted on application.

BUTTER PRINTERS

THE UP-TO-DATE

No. 1

TWO PRINTERS IN ONE



This improved Butter Mold and stamp is self-weighing or gauging. The same stamp can be adjusted to print pounds or half pounds. This adjustment is regulated by a collar that moves up and down on the upright standard and is kept in place by a set-screw. This makes practically two printers in one. It is patented and cannot be used on any other printer. The adjustment is very simple.

The process of printing is very rapid. With little practice a person can easily mold from ten to fifteen prints per minute.

Gives accurate weights when properly adjusted. Prints pounds, $4\frac{5}{8}$ x $2\frac{1}{2}$ x $2\frac{3}{8}$ inches; also half-pounds $4\frac{5}{8}$ x $2\frac{1}{2}$ x $1\frac{3}{16}$ inches.

It is made of close-grained wood with gun metal, nickel-plated top and trimming.

PRICE

With plain (uncarved) print block (to print pounds or half-pounds) $4 00

EXTRAS

Frame	$2 25	Clamp Screw	$0 05
Post	60	Slide	20
Cap	40	Slide Screw	05
Clamp	30		

No. 2

This Butter Mold is essentially like the Up-to-Date No. 1 in its workings and construction, except that there is no metal band around the top.



The same printer will print pounds or half-pounds of the same sizes as the No. 1, and is also made in two-pound size, twice as wide as the one-pound.

Do not compare the Up-to-Date Printer with cheaper printers which can print but one size prints. Every Up-to-Date Printer prints two sizes, and is, therefore, practically two printers in one.

PRICES

With plain (uncarved) print block.

To print pounds, $4\frac{5}{8}$ x $2\frac{1}{2}$ x $2\frac{3}{8}$	$3 00
Or half-pounds, $4\frac{5}{8}$ x $2\frac{1}{2}$ x $1\frac{3}{16}$	3 00
To print two pounds, 6 x 3 x 3	4 00
Or one pound, 6 x 3 x $1\frac{1}{2}$	4 00
To print two pounds, $4\frac{5}{8}$ x 5 x $2\frac{3}{8}$	3 50
Or single pounds, $4\frac{5}{8}$ x 5 x $1\frac{3}{16}$	3 50

EXTRAS

Frame	$1 10	Clamp Screw	$0 05
Post	60	Slide	40
Cap	40	Slide Screw ..... each,	05
Clamp	20		

THE REID'S AUTOMATIC IRON CLAD

The sides and ends are hinged independent of each other, and open and close automatically with the raising and lowering of the lever.

SIZES AND PRICES

For either pound or half-pound printer	$15 00
For both pound and half-pound printer combined	20 00

BUTTER MOULDS

"IDEAL" HAND MOULD

A durable and satisfactory Mould at a moderate price.

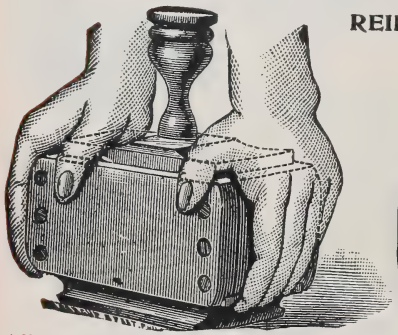
Price .....each, $0 90

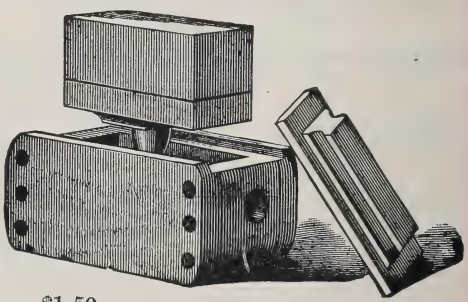


WOODEN BUTTER KNIVES

Price.....each, $0 15

REID'S FAMILY BUTTER MOULD





½ lb.....$1 50
1 lb..... 1 50
2 lb..... 2 50

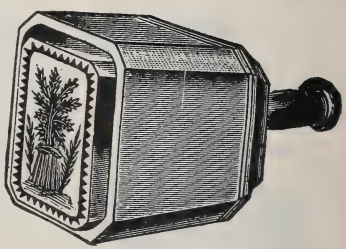
SQUARE MOULDS

SIZES AND PRICES



One Ounce Square Mould

	Each.	Per doz.
1/16 lb	$0 15	1 60
¼ lb	25	2 75
½ lb	30	3 00
1 lb	35	3 75



One Pound Square Mould

ROUND MOULDS

SIZES AND PRICES



Individual Mould

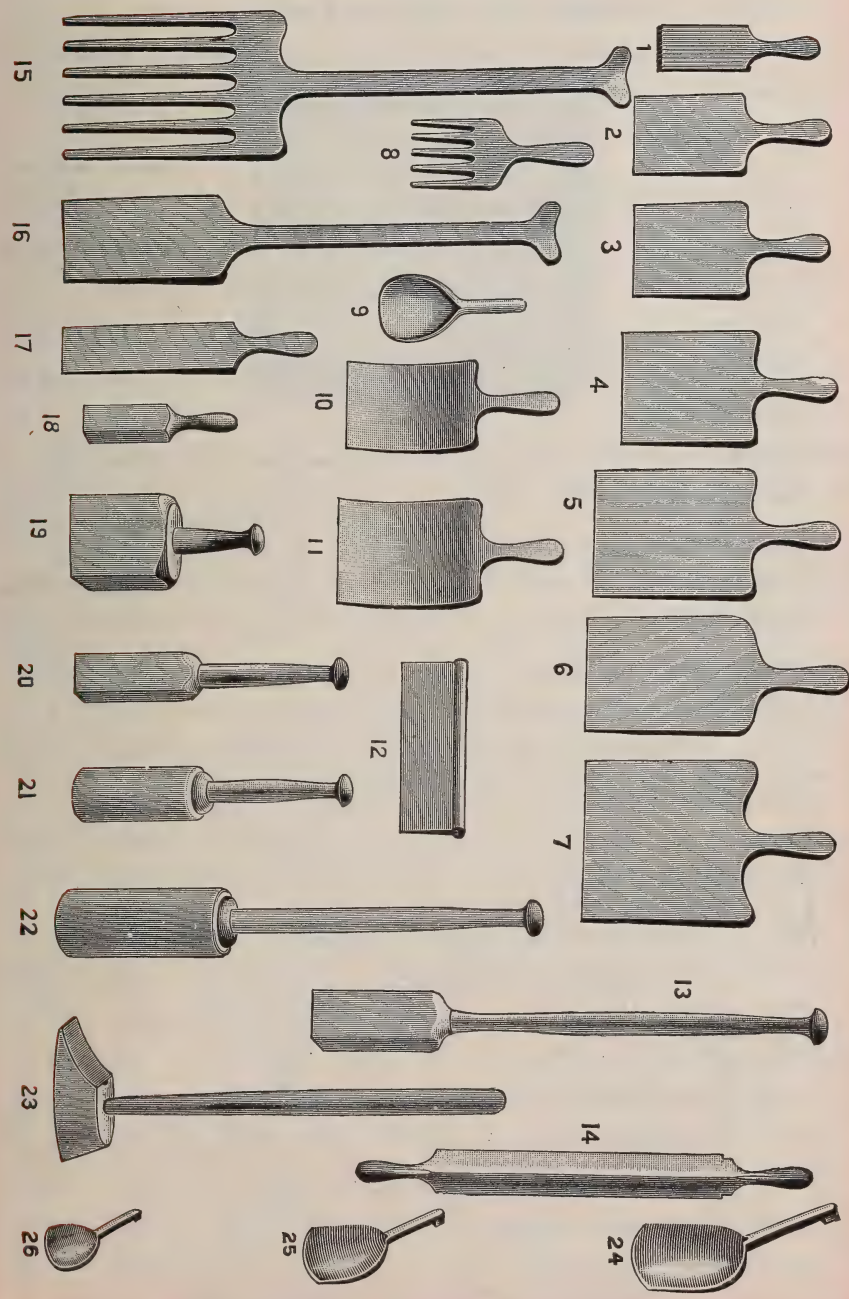
	Each.	Per doz.
1/16 lb	$0 10	90
¼ lb	15	1 75
½ lb	20	2 00
1 lb	25	2 50
2 lb	30	3 00

Initial letters carved on Moulds, if desired, at a small extra expense.



One Pound Mould

BUTTER LADLES AND PACKERS.



SIZES AND PRICES OF BUTTER LADLES AND PACKERS.

All of our ladles are made from select stock carefully seasoned. Especial care is take in the manufacture of these good to secure the full strength of the wood. All of these goods are highly finished.

	STYLE.	SIZE.	EACH.	PER DOZ.
1	Corrugated Dairy Ladle	2¾x 9¾		$ 1 00
2	Dairy	5 x12	$0 20	2 25
3	Large Dairy	6 x12	25	2 50
4	Factory	7 x13	30	3 00
5	Medium Large Factory	8 x15	35	3 50
6	Large Factory	7 x16	40	4 00
7	Special Large Factory	10 x15¼	50	5 00
8	Small Butter Fork	4½x11¼	25	2 50
9	Dairy Spoon	4 x 9	20	2 00
10	Medium Spoon	5½x13	30	3 00
11	Large Spoon	6½x14	40	4 00
12	Butter Cutter for Prints	10½x 4	50	5 00
13	Large Packer, long handle	3¼x3¼x31	60	7 00
14	Striker for Tubs or Printers 3 cornered	2½x27½	50	5 00
15	Large Curd Fork	9½x36	75	9 00
16	Large Spade, long	5¼x21	60	6 00
17	Narrow Spade, short	3 x16	50	5 00
18	Square Dairy Packer	1¾x1¾x 9¼	25	3 00
19	Large Square Packer, short handle	4½x5¼x11½	60	7 00
20	Small Square Packer	2½x2½x16¼	50	5 00
21	Small Round Packers	3¼x16¾	50	5 00
22	Large Round Packer	4¼x29	75	9 00
23	Large Half Round Packer	6x8¼x26½	75	9 00
24	Small New York Ladle	5¾x 6½	25	2 50
25	Medium New York Ladles	6⅝x10½	30	3 00
26	Large New York Ladles	7 x12	50	5 00

ASH TUBS

"ELGIN" STYLE—HAND MADE



These tubs are made from strictly prime White Ash, the stock being first thoroughly air-dried and then kiln-dried just enough to extract all the sour sappy substance from the timber.

In addition to the above drying we still further cure the wood by fire heating in the process of manufacture. This thoroughly softens and sweetens the timber, and thus reduces the possibility of moulding to the minimum.

Our facilities are extensive and of the very best, which enables us to make uniform, solid and brine-tight packages. These are advantages which no other manufacturers of this style of package possess.

A large majority of the *Commission Houses* and large *Butter Manufacturers* use and recommend this package. It is without doubt the best Butter Package now on the market.

Many so-called *Hand-Made Tubs* are made from stock which has simply been air-dried. They shrink and fall down and are wholly unfit for butter, often spoiling it, and entailing a loss many times the cost of the package.

SIZES AND DIAMETERS FOR CIRCLES

Sizes	Diameter Top, Inches.	Diameter Bottom, Inches.	Sizes	Diameter Top Inches.	Diameter Bottom, Inches.
10 lbs.	8½	6	56 lbs.	14½	11½
20 "	11	8½	60 "	15	12
24 "	12	9½	70 "	16	12½
25 "	11½	8½	80 "	16½	13½
30 "	12	9½	90 "	17½	14½
40 "	13	10½			

For Prices see our Monthly Price Current

SPRUCE TUBS

"VERMONT"



The Boston Market, at least, prefers a Spruce Tub and gives preference to butter—other things being equal—packed in this style of packages. We have working arrangements with several spruce tub factories whereby we are able to furnish the **Best Spruce Tubs** the market affords at reasonable prices and in quantities of one nest or a car load, and guarantee quality.

Prices, No. 1 Spruce.

Nests, 4–10, 20, 30, 50 lb	per nest, $	....
" 3–20, 30, 50 lb	"	....
" 3–10, 20, 30 lb	"	....
" 3–25, 40, 50 lb	"	....
" 2–20, 30 lb	"	....
" 2–10, 20 lb	"	....
5 lb. single	each,	....
10 lb. "		....
20 lb. "		....
25 lb. "		....
30 lb. "		....
40 lb. "		....
50 lb. "		....
60 lb. "		....

SIZES AND DIAMETERS FOR CIRCLES

	Diameter Top. Inches.	Bottom. Inches.
Singles, 5 lbs	6	5½
" 10 "	8½	6¾
" 20 "	10½	8½
" 25 "	11	10
" 30 "	12	10
" 40 "	12½	10½
" 50 "	13½	11
" 60 "	15	12½

We can match up cars of Spruce Tubs and other packages

For Prices see our Monthly Price Current

"AUSTRALIAN" BUTTER BOXES

WHITE SPRUCE

THE LIGHTEST



THE BRIGHTEST

THE BEST

AUSTRALIAN PACKAGE ON THE MARKET

The extreme lightness of these boxes will effect a saving in freight alone, between our factory and the consumer of the butter, of from five to eight cents on every package. Outside of this they are beyond all question the finest package made for storage butter that will be satisfactory for foreign shipment. They are the regulation size, 12x12x12 inside measure; the sides, tops and bottoms are each of one piece. These boxes are finely finished inside and out are cut true to gauge and nail up perfectly. They

IMPART NO BAD FLAVOR TO BUTTER

The superiority of spruce for butter packages has long been recognized, and we are offering our customers the very best box that can possibly be made for butter.

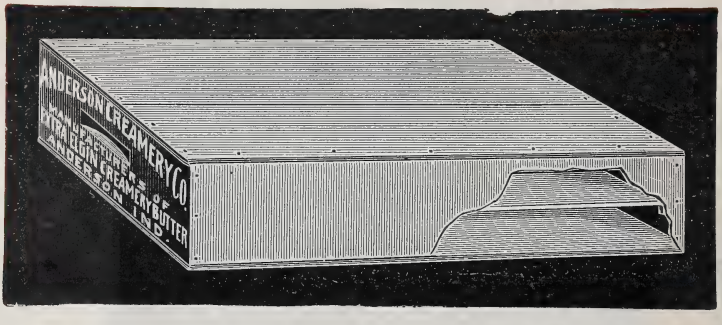
PRICES

In lots less than 100.....each, $....
" " of 100..... " ....
" " " 200 to 400..... " ....
" " " 500..... " ....
In carload lots.....special

Can also furnish White Wood and Poplar Australian Boxes at lowest market prices.

For Prices see our Monthly Price Current

BUTTER PRINT BOXES

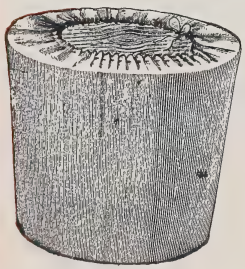


These boxes are made from poplar, planed one side and very neatly finished. The ends are made with hand hole as shown in cut. We furnish these boxes in the K. D. only. The freight charges are much less shipped this way, and it costs but a trifle to put them together. They should be lined with parchment paper before using.

Capacity	Size of Print	Number of partitions	Dimensions			Thickness of		Price.
			Length	Width	Height	Sides, tops, bottoms & partitions	Ends	
30 lbs.	1 lb.	None	13 in.	8 in.	9⅝ in.	⅜ in.	⅝ in.	Ea, $....
40 "	½ "	"	16 "	11½ "	7½ "	"	"	" ....
40 "	1 "	"	13 "	10⅜ "	9⅝ "	"	"	" ....
50 "	1 "	"	13 "	13 "	9⅝ "	"	"	" ....
54 "	1 "	"	23¼ "	14½ "	5⅛ "	"	"	" ....
20 "	1 "	"	13 "	10 "	5¼ "	"	"	" ....
54 "	1 "	One	24 "	14¾ "	6 "	"	"	" ....
72 "	2 "	None	20¼ "	12½ "	9 "	"	"	" ....

NUMBER AND SIZES OF PARCHMENT LINERS COMPLETE FOR ABOVE BOXES

30 lbs.,	no	partition,	two	sheets,	8	x 13 in.	and	one	sheet,	8	x 46 in.
80-½ lbs.	"	"	"	"	15	x 24 "	"	"	two sheets,	5	x 40 "
40 lbs.	"	"	"	"	11	x 13 "	"	"	"	10	x 24 "
50 "	"	"	"	"	13	x 13 "	"	"	"	10	x 28 "
54 "	"	"	"	"	14½	x 24 "	"	"	"	5½	x 40 "
60 "	"	"	"	"	10	x 22 "	"	"	"	12	x 36 "
54 "	one	"	four	"	15	x 24 "	"	"	"	6	x 40 "
36-2 lbs.	no	"	two	"	12½	x 20 "	"	"	"	9	x 36 "



BURLAPS

If you want your packages to arrive at destination in nice shape, use burlaps on them. They should always be used where butter is to be shipped long distances or put in storage.

SIZES AND PRICES

10-lb. tub size.....each, $....
20 to 25-lb. tub size..... " $....
30 " 40 " " ..... " $....
50 " 60 " " ..... " $....
70-lb. tub size..... " $....
Australian Butter Box size..... " $....

PARAFFINE

Used for coating the inside of butter boxes and small tubs.

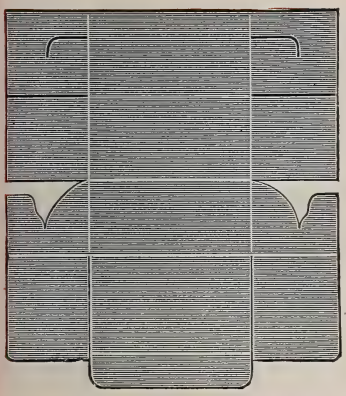
PRICES—BEST GRADE

Per pound.....$....
25-lb. tubs.....per lb. ....



For Prices on above goods see Price Current

BUTTER CARTONS

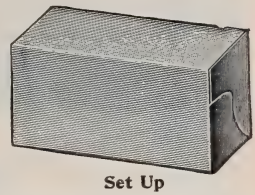


Open

MONARCH AND PEERLESS BRANDS

The advantage of small butter packages is so apparent that the practice of making butter into one-pound prints is rapidly growing. In addition to the parchment paper wrapper, many manufacturers now put each print in a separate carton.

Our cartons have been designed especially for this trade. Cleanly and sanitary in every respect, they increase sales and hold trade.



Set Up

Being brine-proof, the outside of the carton is always dry and clean, and the butter presents a much better appearance, due to the fact that it does not dry out on the surface. It also keeps fresh and sweet much longer.

The wrapper should be set up around the print of butter. This will be found more convenient than to put the print into the set-up box.

PRICES

Printed cartons are printed on one side only.

No. 1. Monarch Brine-Proof Butter Cartons. Grained to Imitate Spruce

		Plain	Printed
1,000	Per 1,000,	$.....	$.....
5,000	"	.....	.....
10,000	"	.....	.....
25,000	"	.....	.....
50,000	"	.....	.....
100,000	"	.....	.....

No. 2. Monarch Brine-Proof Butter Cartons. Plain Manila Color

		Plain	Printed
1,000	Per 1,000,	$.....	$.....
5,000	"	.....	.....
10,000	"	.....	.....
25,000	"	.....	.....
50,000	"	.....	.....
100,000	"	.....	.....

No. 3. Peerless Brand Cartons. Solid Manila, Waxed

		Plain	Printed
1,000	Per 1,000,	$.....	$.....
5,000	"	.....	.....
10,000	"	.....	.....
25,000	"	.....	.....
50,000	"	.....	.....
100,000	"	.....	.....

No. 4. Peerless Brand Cartons. Unwaxed

		Plain	Printed
1,000	Per 1,000,	$.....	$.....
5,000	"	.....	.....
10,000	"	.....	.....
25,000	"	.....	.....
50,000	"	.....	.....
100,000	"	.....	.....

For Prices see Monthly Price Current.

EGG CASES AND FILLERS



FILLERS.—Our stock of fillers is always complete. We are prepared to make prompt shipments of small lots from Chicago stock, or full car lots from the factory. Our fillers in the various weights are the best on the market as regards quality of board and finish.

CASES.—By making large contracts in advance for our egg case supply, we are able to give our customers the benefit of very favorable prices. Delivered prices on car lots quoted promptly.

Fillers in Less Than Car Loads

PER SET

	SMALL LOTS	100 LOTS	500 LOTS	1,000 LOTS
No. 2 machine made	$..	$ ..	$ ..	$ ..
Medium machine made	..	..	..	..
No. 1 machine made	..	..	..	..
Hand made	add ¾c per set.			
Chip	add ¾c per set.			

For 36 doz. sets add one-fifth to above prices.

Egg Cases, Knocked Down Without Fillers

	SMALL LOTS	100 LOTS	500 LOTS
No. 1, 30 doz. sawed and planed Pine	$ ..	$ ..	$ ..
No. 2, 30 doz. veneer (sawed ends and centers) Whitewood	..	..	..
No. 2, 36 doz. veneer (sawed ends and centers) Whitewood	..	..	..

Nailing Cases, No. 1.....$ ..
Nailing Cases, No. 2..... ..

No. 2, 30 doz. veneer whitewood cases furnished on orders when not otherwise specified.

Filler Cases

No. 1, 30 doz., Pine.....$ ..
No. 2, 30 doz., Whitewood..... ..
No. 2, 36 doz., Whitewood..... ..

No. 2, 30 doz. Filler cases used unless otherwise ordered.

A 30 doz. Filler case holds 10 sets No. 1 Fillers.
A 30 doz. Filler case holds 12 sets medium Fillers.
A 30 doz. Filler case holds 15 sets No. 2 Fillers.
A 36 doz. Filler case holds 12 sets No. 1 Fillers.
A 36 doz. Filler case holds 15 sets medium Fillers.
A 36 doz. Filler case holds 18 sets No. 2 Fillers.
A 36 doz. Duck Egg Filler case holds 10 sets No. 1 Fillers.

We do not fill orders for fractions of Filler case capacities as above.

Duck Egg Fillers

Per set, small lots.....$ ..
Per set, 100 set lots..... ..
Per set, 500 set lots..... ..

Packed in 36 doz. cases only.

Forty-Nine Dozen Fillers

Small lots, per set.....$ ..
100 set lots, per set..... ..
500 set lots, per set..... ..

Filler cases charged extra.

Division Boards or Flats

No. 1 Strawboard.....per 100, ..c; per M., $ ..
Medium Strawboard....per 100, ..c; per M., ..
No. 2 Strawboard.....per 100, ..c; per M.. ..

Wire Nails

Plain, full count..... per keg, $ ..
Cement coated, full count.....per keg, $ ..

Excelsior

Fine .....100 lbs., $ .. ; per ton, $ ..

A bale averages 85 lbs.

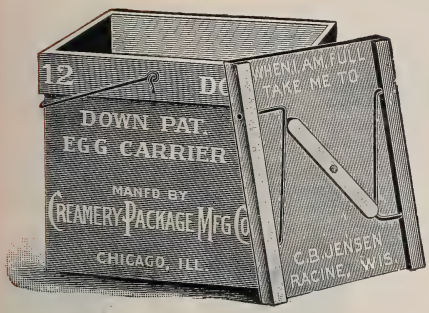
Cork Shavings

1-sack lot (about 40 lbs.).....per lb., $ ..
5-sack lots .....per lb., ..
Sacks (not returnable).....each, ..

SPECIAL QUOTATIONS ON CAR LOTS

For Prices see our Monthly Price Current

THE DOWN PATENT EGG CARRIER



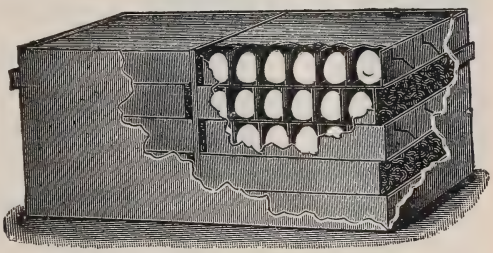
This is the Best Farmers' Egg Carrier Ever Made

It holds 12 dozen eggs when full. The cover fits inside the case and is adjustable, so that it will fit close on top of the filler, whether the case is full or only one filler is used. It will pay you to supply each of your patrons with these Carriers. They are nicely made, nicely painted and nicely stenciled. They are complete with fillers, large posters, punch cards and punch. They use the regular size filler.

Lots of 15 to 25, stenciled, each ....$ ..
" 100 " " .... ..

Lots of 25 to 50, stenciled, each .....$ ..
Extra Punch Cards, per 100 ....

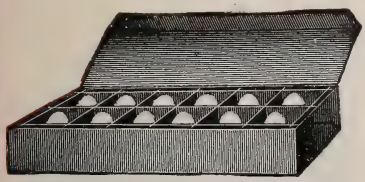
THE IDEAL EGG CARTON



Shippers of selected eggs should put them up in such shape as to insure their delivery without injury. The Carton Egg Case Filler is now recognized as a distinctive mark of high grade goods. You will note that the old filler in entirely eliminated and is replaced by thirty small strawboard cartons, each holding one dozen eggs, and locked into a complete box ready to hand from the case to your trade.

Eggs shipped packed in carton filler in cold weather clearly demonstrate the superiority of this new filler over the old. Under the same conditions, eggs in the old filler arrived frozen, while in the carton filler they were intact. If they will retain the heat they will retain the cold.

The Ideal is more convenient, better board and better lock than any other carton ever offered.



PRICES

Small lots, per thousand.....$ ..
On orders of 1,000, per thousand..... ..
" " 5,000, " ....
" " 10,000, " ....

PRINTING EXTRA

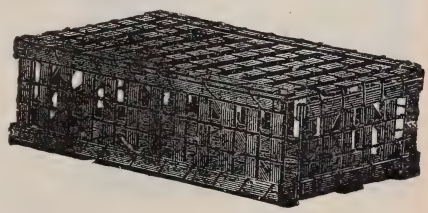
3,000 or less .....$ ..
Lots over 3,000, per thousand..... ..

SITES' VENTILATED COOPS

FOR SHIPPING LIVE POULTRY

SIZES

Standard size Chicken Coops, 2 ft. x 3 ft. x 1 ft.
Special size Chicken Coops, 2 ft. 3 in. x 3 ft. 8 in. x 1 ft.
Standard size Turkey Coops, 2 ft. x 3 ft. x 1 ft. 6 in.
Special size Turkey Coops, 2 ft. 3 in. x 3 ft. 8 in. x 1 ft. 6 in.



Can be shipped in the knock-down to save freight, if desired. These coops can be set up in a few minutes. Requires no skill or tools outside of a hammer.

EXCELSIOR CLOTH CIRCLES AND SQUARES

THE BEST IN THE MARKET

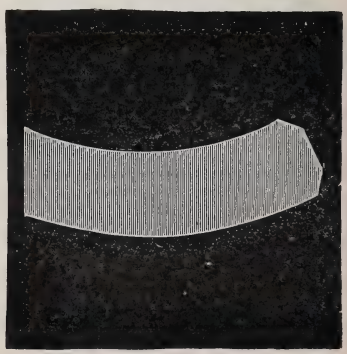




PARCHMENT SQUARES AND TUB LINERS

FINEST QUALITY





"EXCELSIOR" CLOTH CIRCLES AND SQUARES

They are made from the heaviest of bleached cloth used for this purpose. We guarantee perfect Circles, full count and full weight. We are the largest manufacturers of these goods in the U. S., our machines having a capacity of 6,000 yds. of cloth per day. We have no hesitancy in claiming superiority for the Excelsior brand of Cloth Circles and Squares.

PARCHMENT CIRCLES AND SQUARES

Our facilities for manufacturing Parchment Circles and Squares are unexcelled. We use the very best grade of paper only, and have capacity for turning out large quantities of these goods. We are in position to fill large and small orders promptly upon receipt.

CLOTH AND PARCHMENT CIRCLES

SIZES AND PRICES PER M

In.	Paper	Cloth	In.	Paper	Cloth	In.	Paper	Cloth
4	$0.45	$0.70	8½	$1.50	$3.00	13	$3.55	$ 6 50
4½	.50	.85	9	1.70	3.35	13½	3.80	7.00
5	.55	1.10	9½	1.90	3.75	14	4.10	7.50
5½	.65	1.30	10	2.10	4.20	14½	4.40	7.85
6	.75	1.45	10½	2.30	4.50	15	4.70	8.00
6½	.90	1.65	11	2.55	4.75	15½	5.00	8.50
7	1.00	2.00	11½	2.75	5.25	16	5.35	9.00
7½	1.20	2.50	12	3.00	5.80	16½	5.70	9 50
8	1.35	2.75	12½	3.30	6.00	17	6.00	10 00

CLOTH AND PARCHMENT SQUARES

We cut our own squares and can fill orders promptly for odd sizes.

SIZES AND PRICES PER M

Size	Paper	Cloth	Size	Paper	Cloth	Size	Paper	Cloth
6x6	$0.50	$1.55	9x 9	$1.30	$3.45	12x12	$2.00	$6.00
7x7	.85	2.10	10x10	1.40	4.30	10x15	2.25	6.10
8x8	1.00	2.85	8x11	1.35	3.55	12x15	2.35	6.50
8x9	1.15	3.25	9x12	1.50	4.35			

Special sizes cut to order.

PARCHMENT BOX LININGS

Experience has proven that Parchment Liners are among the most profitable supplies a creamery-man can buy. We carry a very large stock of heavy Liners and guarantee the quality of these goods.

SIDE LININGS FOR ROUND BUTTER PACKAGES

Size	List	Size	List	Size	List
2 x12 in. per M	$0.40	4¾x22 in. per M	$1.50	6 x26½ in. per M	$2.45
2¾x14 " "	.60	5 x25 " "	1 95	6½x26 " "	2.60
3¾x18 " "	1.05	5 x26 " "	2.00	6½x32 " "	3.20
4 x24 " "	1.50	5¼x26 " "	2.10		

COMPLETE LININGS FOR PRINT BOXES

Size	List	Size	List	Size	List
5 x40 in. per M	$3 05	9x36 in. per M	$5 00	12 x36 in. per M	$6 60
5½x40 " "	3 40	10x22 " "	3 40	12½x20 " "	3 85
6 x40 " "	3 70	10x24 " "	3 70	13 x13 " "	2 60
8 x13 " "	1 60	10x28 " "	4 30	14½x24 " "	5 35
8 x46 " "	5 65	11x13 " "	2 20	15 x24 " "	5 50

Other sizes furnished at proportionate prices.

PARCHMENT TUB LININGS (Sides only)

When complete Liners are ordered, we send cloth for top and paper for bottom, with paper side linings, unless paper for the tops is ordered.

60-lb. tub size, per M.... $15 00	40-lb. tub size, per M.... $11 85	20-lb. tub size, per M.... $8 40
56-lb. " " 14 50	30-lb. " " 11 50	10-lb. " " 5 00
55-lb " " 14 00		

For price complete, add price of circles for top and bottom

AUSTRALIAN BOX LINERS

Per 100.....$.... Per M.....$...

These Liners are heavy and made especially for these boxes.

PARCHMENT PAPER

16-in. rolls....per lb. $.... 36x40....per lb. $.... 24x36....per lb. $.... 36x60. ..per lb. $...

Special sizes furnished when desired.

WAXED PAPER

9x12, 400 sheets in package.....per pkg. $....

See our Monthly Price Current for Discounts and Prices

BUTTER COLORS

WELLS & RICHARDSON CO.'S



The Dandelion trade mark is now known all over the world as standing for perfection in butter color.

Wells & Richardson Co.'s "Improved" Butter Color is the standard color of the world. It has been on the market for many years and never fails to give complete satisfaction. The last drop is as clear as the first. Guaranteed not to fade or color the buttermilk. Always gives that perfect June tint which consumers so much desire.

Sizes

Small bottle, to color 500 pounds		$-----
Medium bottle, to color 1,250 pounds		------
Large bottle, to color 2,800 pounds		------
Single gallon		------
Five gallons	per gallon,	------
Ten gallons	"	------
Twenty-five gallons	"	------

DANDELION VEGETABLE BUTTER COLOR

A new color equal in every way to the "Improved." Butter-makers who, for any reason, wish to use a vegetable color, will find the Dandelion Vegetable Butter Color to be perfectly satisfactory.

Sizes

Small bottle, to color 500 pounds		$-----
Medium bottle, to color 1,250 pounds		------
Large bottle, to color 2,800 pounds		------
Single gallon		------
Five gallons	per gallon,	------
Ten gallons	"	------
Twenty-five gallons	"	------

For Prices see Monthly Price Current.

TUB FASTENERS

IDEAL.

TIN AND TACK COMBINED



We can recommend to consumers as being far superior to any device known for safe transportation and preservation of the contents of the package.

No lacerating and poisoning the hands.

Receivers of butter in all sections are strongly urging shippers to encourage among creameries and dairymen the use of the Ideal Fastener in preference to any other. The Ideal is quickly applied and can be easily withdrawn to examine butter, and can be re-used. Remember, the Ideal is a time, labor and money-saver to every creamery, butter-maker or shipper.

We are the exclusive Western Agents for these Fasteners.

Try the Ideal. We guarantee satisfaction. Send for circula- and prices. Samples free.

PRICE LIST

Packed 500 in a package.

Per 1,000..... $....

"COMMON TINS"



1,000 in a package.

Per 1,000..... $....
" 1,000 in 10,000 lots..... ....

NAILS AND TACKS

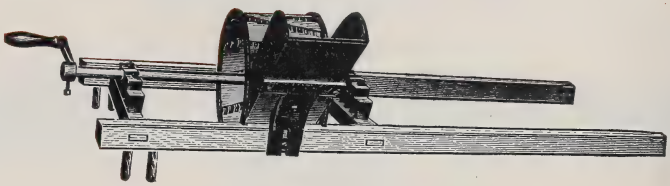


⅝-in. wire nails, per lb..... $....
10-oz. Swede tacks, per lb..... ....

For Prices see our Monthly Price Current

CURD MILLS

GOSSELIN

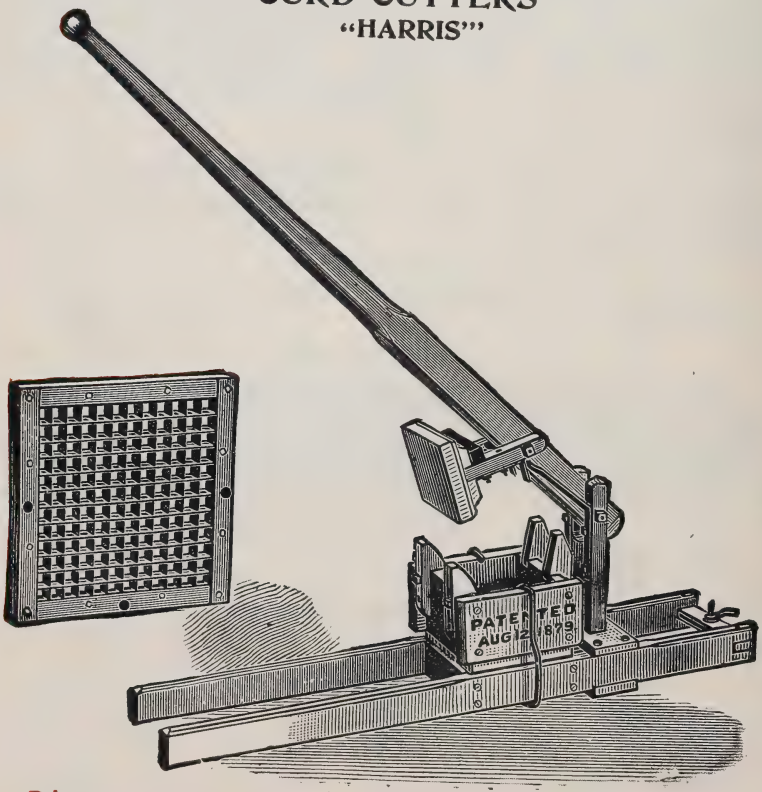


This style of mill has been used for several years in Canada. We have recently introduced it in this country. It is one of the most satisfactory mills ever placed on the market. Our customers who have used it are well pleased. It shoves the curd into thin slices and at the same time slits it getting it into the most desirable shape. It is made strong and durable and is easily operated.

Price.....$20 00

CURD CUTTERS

"HARRIS"



Price.....$15 00
Extra knives.....net, per set, 3 00

CURD MILLS.

POHL SELF-SALTING.

Power mill, complete, with salting attachment.....$26 00
" " " without salting attachment..... 24 00
Hand mill, " with salting attachment..... 24 00
" " " without salting attachment..... 22 00

SCHAUBLE IMPROVED POWER.

DESCRIPTION AND PRICES.

Revolutions of driving pulley, 140 to 150 per minute. Diameter of driving pulley, 14 inches. Face of driving pulley, 3 inches. Total shipping weight, 162 pounds.

Price, each.....$25 00

ELGIN.

Diameter of pulley, 7 inches. Face, 3 inches. Speed, 175 to 225 per minute to suit operator. Weight, 85 pounds.

Price, each.....$16 00

MACPHERSON.

Price.....$23 00

IMPROVED CURD KNIVES

TINNED STEEL

These knives have no wood about them except the handle. The blades are of steel, ground to an edge, and tinned over to prevent rusting.



Horizontal.

HORIZONTAL

4	in. wide,	22	in. long	$2 00
6	"	22	"	2 25
8	"	22	"	2 55
10	"	22	"	2 85
12	"	22	"	4 00

PERPENDICULAR

4	blade knives,	22	in. long	$1 50
6	" "	22	"	1 70
8	" "	22	"	1 95
10	" "	22	"	2 25
12	" "	22	"	2 55
13	" "	22	"	2 70
14	" "	22	"	2 85
15	" "	22	"	3 00
17	" "	22	"	3 10
20	" "	22	"	3 70
30	" "	22	"	5 50



Perpendicular.

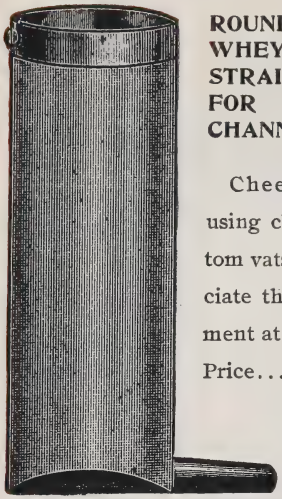
TINNED CHEESE KNIVES



Each.....$1 00

Write for Discounts.

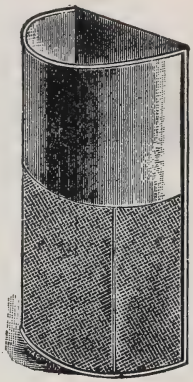
CHEESE FACTORY TINWARE



ROUND WHEY STRAINER FOR CHANNEL VAT

Cheese-makers using channel bottom vats will appreciate this improvement at a glance.

Price.....$1 10



HALF ROUND WHEY STRAINER

For either flat or channel bottom vats.

PRICE

Without Spout $0 85
With spout... 1 00

State whether for flat or channel bottom vat.

SIPHONS

PLAIN

Used for removing milk from one vat into another.

Price.....each, $0 85

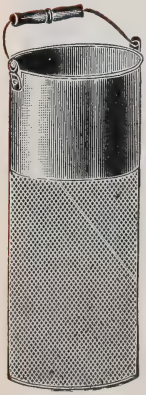


WITH GATE AND VALVE



This siphon, with gate and valve, will be found very serviceable where a siphon is used. It is much better than the old kind, and may be ordered with the plain strainer.

Price $1 75

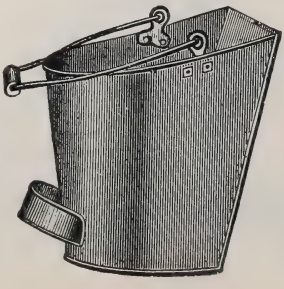


WHEY STRAINER

This illustrates the oldest style of whey strainer; every cheese-maker knows just what they are.

Without spout.....$0 85
With spout..... 1 00

FLAT SIDE CURD PAIL



Best four-cross charcoal, tin, price:

Light....$1 25
Heavy.... 1 50

Double the lists to obtain the price on above goods furnished in tinned copper.

NEW STYLE STEEL "FRAZER" GANG PRESS.



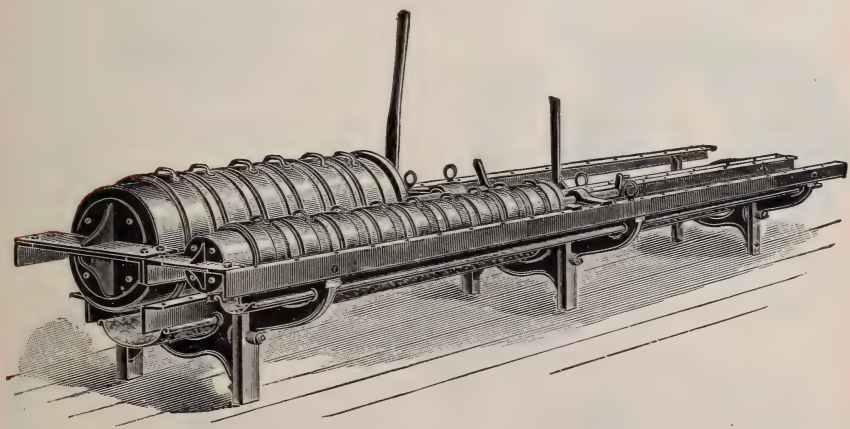
Our new Steel Press is of great durability and strength—easily kept clean and sweet, so necessary in *all* cheese implements. We also make a *Single* Gang Steel Press for Young Americas.

It is safe to say that a steel press will last twice as long as the ordinary wood press. Wood presses for both Cheddars and Young Americas furnished when wanted.

SIZES AND PRICES

Standard size, 16 ft. long.....	$45 00	Young Americas, double row....	$50 00
Special sizes, 12 and 14 ft. long..	43 00	Young America and Cheddar dou-	
For Young America Cheese.....	40 00	ble row.....	$60 00

COMBINATION STEEL GANG PRESS.

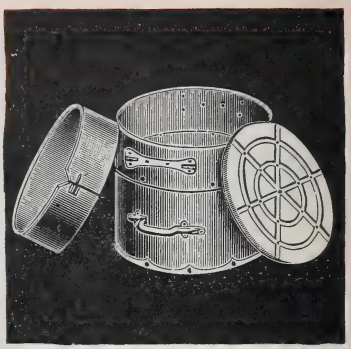


As can be seen from the cut the combination press takes two side by side gangs of cheese, on one side the large diameter cheese from 13½ to 16 inches in diameter, and on the other side a gang of Y. A. or 7 inch cheese, The press consists of one of our Standard Steel Gang Presses, with the Y. A. parts bolted on one side and supported by three bracket castings. Capacity twelve 10 inch deep large cheese, and 21 Y. A. or 7 x 7 cheese. Shipping weight, 800 lbs. Length, 16 feet.

Price..... $60 00

GANG PRESS HOOPS

"FRASER" TINNED



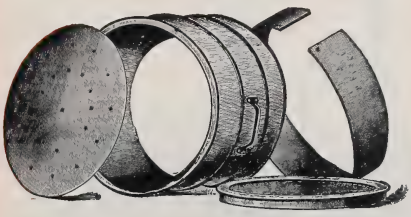
We furnish all kinds of Gang Press Hoops. The latest and best thing in this line is the "Fraser Steel Tinned," which we recommend as being superior to the galvanized iron hoop, in that it is more durable, makes a finer-looking cheese—and the cheese can be taken out of the hoop much more easily.

NOTE—The depth of a cheese hoop is measured from the bottom of the hoop to the bottom of bandager rim.

SIZES AND PRICES

No.	Price	No.	Price
7 x7 or 9	$2 00	14½x 5 or 6	$3 60
10 x5	2 40	14½x 7 or 8	3 90
10 x6 or 7	2 60	14½x 9 or 10	4 40
10 x8 or 9	2 80	14½x11 or 12	4 60
11 x6 or 7	2 85	15 x 5	3 60
11 x8 or 9	3 00	15 x 6 or 7	4 00
12 x5 or 6	3 00	15 x 8	4 40
12 x7 or 8	3 60	15 x 9 or 10	4 60
13½x6 or 7	3 15	15 x11 or 12	5 00
13½x8 or 9	3 90	15½x 6 or 7	4 40
13½x10	4 20	15½x 9 or 10	5 00
14 x5 or 6	3 30	16 x 5 or 6	4 80
14 x7 or 8	3 75	16 x 9 or 10	5 25
14 x9 or 10	4 00	6 x15	2 25

THE LOOSE BOTTOM HOOP.



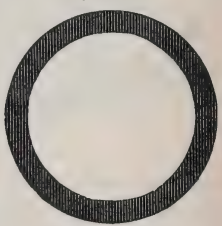
The most convenient hoop to use ever made. They are made whole with no rivets to tear the bandage as the cheese drops out. The loose bottoms makes it possible to remove the cheese after 24 hours hard continuous pressing quite easily. The hoop does not become injured by continuous rappings or running a knife around the cheese with danger of cutting the bandage. No other hoop so strong or convenient.

Prices same as on regular hoops given above.

FIBROUS PRESS RINGS

They are used generally. They can be cut to fit any sized hoop, and give good satisfaction.

From 10 to 16-inch hoop.....each, $0 35
" 7 to 8-inch..... " 25



Fibrous Press Ring

GALVANIZED IRON DIVIDING CIRCLES

For Y. A. Hoops.....each, $0 40

BANDAGERS

For Y. A. Hoops.....each, $0 50
" other sizes..... " 75

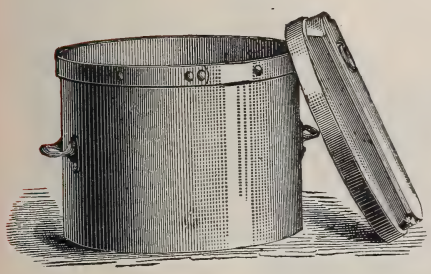
SACKERS

For cheese bandage.....each, $1 75

IN ORDERING SACKERS, NOTE SIZES WANTED

GALVANIZED STEEL CHEESE HOOPS

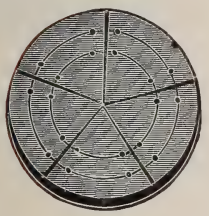
WITH HEAVY HARDWOOD FOLLOWERS FOR STANDING PRESS.



Hoops, 10 in. x 9 in.	$2 00
" 12 in. x 8 in.	2 15
" 13½ in. x 6 or 7 in.	2 25
" 13½ in. x 8 or 9 in.	2 50
" 13½ in. x 10 or 12 in.	2 75
" 14½ in. x 10 or 12 in.	2 80
" 14½ in. x 8 in.	2 50
" 15 in. x 10 or 12 in.	2 85
" 15½ in. x 10 or 12 in.	2 90
Young America, 7 x 9 in.	2 00

FOLLOWERS.

FRAZER.



PRICES.

Y. A. each,	$0 45
Other sizes "	55

HARD WOOD.



PRICES.

10 to 12 inch each,	$0 70
13 to 16 inch "	0 80

FUNNELS FOR FILLING Y. A. HOOPS

Price, each. $1 00

"SPEED" KNIVES

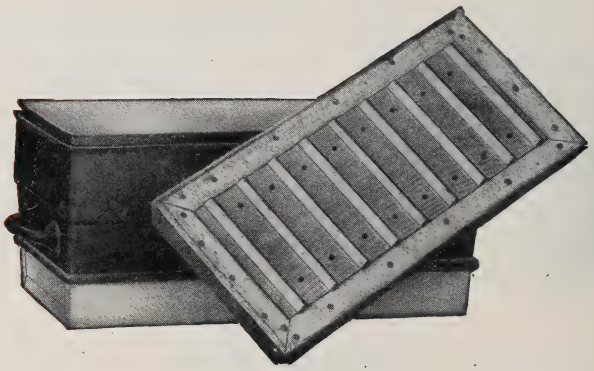
COCOA HANDLES



Just the thing to use in removing cheese from the hoops. By running it between the cheese and hoop it will separate them, leaving the cheese in good condition. Also used in taking cheese from shelves.

Length of Blade..	6 in.	7 in.	8 in.	9 in.	10 in.	11 in.	12 in.	14 in.
Price, each.....	$0 50	$0 60	$0 70	$0 80	$0 95	$1 20	$1 45	$1 70

TWENTIETH CENTURY CHEESE HOOP



There is a growing demand among the better class of dealers for special shape cheese, put up in proper form to be conveniently served to their customers. There are already on the market several special brands of cheese, made in different shapes, which can be conveniently cut into one-pound bricks, of shape similar to one-pound prints of butter.

We believe that this trade is sure to increase, and that the cheese factories manufacturing high-class goods for the best market will find it very greatly to their advantage to adopt the manufacture of this special cheese. We have investigated this trade very carefully and believe that the form of cheese made in our Twentieth Century Hoop is the most desirable that can be secured.

The cheese pressed in these hoops measures 14 x $6\frac{5}{8}$ x 4. The V-shape strips on the followers make a depression in the cheese dividing it into 10 equal parts of one pound each. This enables the grocer to serve his customers with one or more pounds of cheese of symmetrical shape, and in convenient form for use. These hoops are made of galvanized iron in the most substantial manner, and are furnished complete with followers.

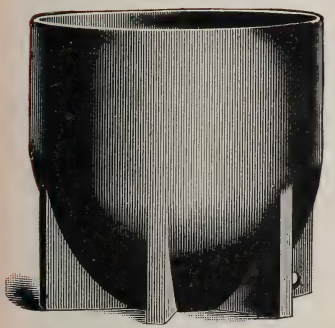
PRICES

Hoops, each, complete		$3 00
Excelsior ready-made bandages, 13 x 6 inches	per 1,000	11 50
Excelsior cloth caps, $13\frac{3}{4}$ x $6\frac{3}{4}$ inches	"	3 45

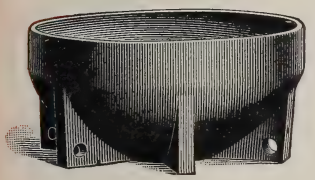
Box Material to Hold 2 or 4 Cheese Quoted on Application.

SPECIAL CHEESE MOLDS

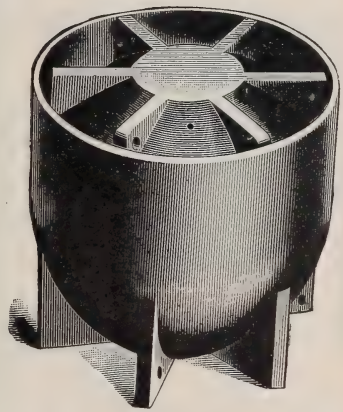
EDAM CHEESE MOLDS



Edam Mold.



Mold Top

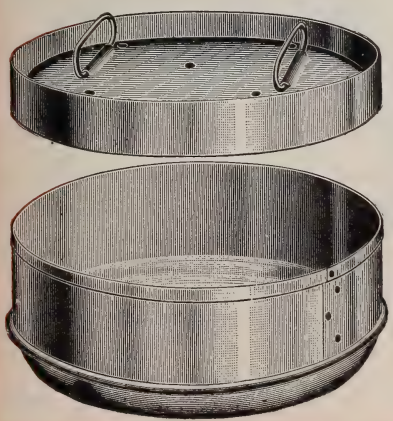


At Press

Considerable difficulty has been found in obtaining satisfactory wood for the Edam Cheese Molds. We have had such poor success in this direction that we determined to try a substitute in galvanized cast iron molds. The illustration showing the mold in several positions conveys fully the idea of the advantages of the iron mold. The lower half is made of sufficient depth so that when it is filled with curd, the other half of the mold, or top, will telescope it sufficiently to make the Edam Cheese round.

The price which we have put upon these molds make them cheaper than any wooden mold that has been sold. They will last a life-time. They can be re-galvanized should the galvanizing wear off.

Our price is $3.50 each.



GOUDA CHEESE MOLD

A new fancy cheese is being marketed in some localities in oval form about nine or ten inches in diameter. We have provided a mold, as shown in the illustration; oval top and bottom, the top telescoping into the mold itself.

Price, each $3 00

VICTOR CHEESE PARAFFINING TANKS

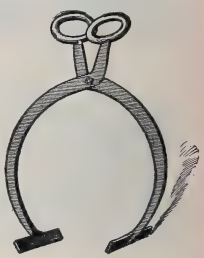


The last decade has witnessed many improvements in the manufacture and marketing of cheese. Not the least of these changes is the practice of paraffining cheese. This has so many advantages that it has been rapidly adopted by cheese manufacturers and dealers and will doubtless soon become general.

Among the benefits derived from paraffining is the saving of a large part of the shrinkage which occurs during the curing. The paraffine seals the rind and prevents evaporation. This saving is, of course, greater in the smaller sized cheese, which have a relatively large surface exposed to the air, but is profitable in the larger sizes as well.

The quality of the cheese is also better, due to the fact that the moisture being retained in the cheese makes it more mellow and palatable.

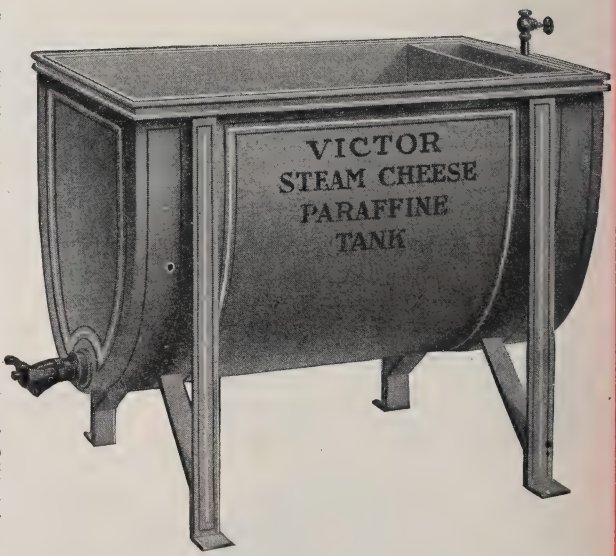
To obtain the best results from paraffining, it is essential that the temperature of the melted paraffine be evenly maintained at the proper point. Specially constructed apparatus is, therefore, necessary.



Nothing is better for this purpose than the Victor Paraffining Tanks. These are made in two styles to suit the needs of different sized factories.

The **Victor Gasoline Paraffining Tank** is designed for small factories, making a small amount of cheese and having no steam for heating. It is built of heavy galvanized iron, thoroughly braced. The burner is of our own manufacture, and will work under very slight head or pressure.

The **Steam Paraffining Tank** is intended for use in large factories and in commission houses where large amounts of cheese are dipped. The steam is admitted into the jacket around the tank and keeps the paraffine at the proper temperature. It is made in two sizes, and a large amount of cheese can be dipped and handled in the most economical manner.



The dipping tongs enable the operator to handle the cheese easily and rapidly.

PRICES

Victor Paraffine Tank, for gasoline	$10 00
Tongs, extra	1 75
Victor Paraffine Tank, for steam only:	
No. 1, holds two Chedder Cheese at once	15 00
No. 2, holds three Cheddar Cheese at once	18 00
Tongs, extra	1 75

CHEESE BOXES

Our Hoops and Rims are rotary cut. Smooth and make a first-class box.
Made up or knock down. We make a specialty of car-load business.



This cut represents material for 50 complete boxes,
Average weight of same, 250 pounds.

PRICES

K.D stock complete for boxes 14½ inches or less diameter.

From Elgin—

5	inch	deep	$.....
6	"	"	.....
7	"	"	.....
8	"	"	.....
9	"	"	.....
10	"	"	.....
11	"	"	.....
12	"	"	.....

From Mills in Michigan—

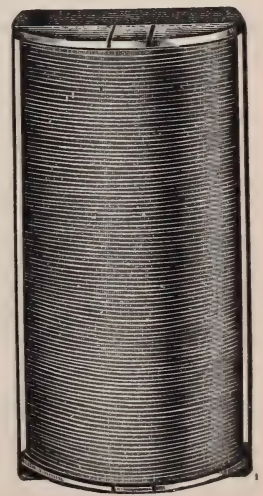
5	inch	deep	$.....
6	"	"	.....
7	"	"	.....
8	"	"	.....
9	"	"	.....
10	"	"	.....
11	"	"	.....
12	"	"	.....

We can ship cheese boxes from Elgin, Ills., Mankato, Minn. and Kansas City, Mo.

MADE UP.

Jokers, 10 to 11x6 to 8 in	each,	$....
Favorites, 12x6 to 8 in	"	....
Cheddars, 13 to 16x8 to 12 in	"	....
Flats, 13 to 16x4 to 7 in	"	....
YA's, 17x17 to 8 in	"	....

200 lots, less per box .. f.o.b., Elgin, Ill.



SCALE BOARDS

FOR AMERICAN CHEESE

Our scale boards are made from the very best white wood. Boards are perfect and bundles run full count. Furnished in the following sizes:

11-inch, about 1,600 to bundle, per bundle	.....	$....
13 " " " " "	.....	....
14 " " " " "	.....	....
15 " " " " "	.....	....
16 " " " " "	.....	....

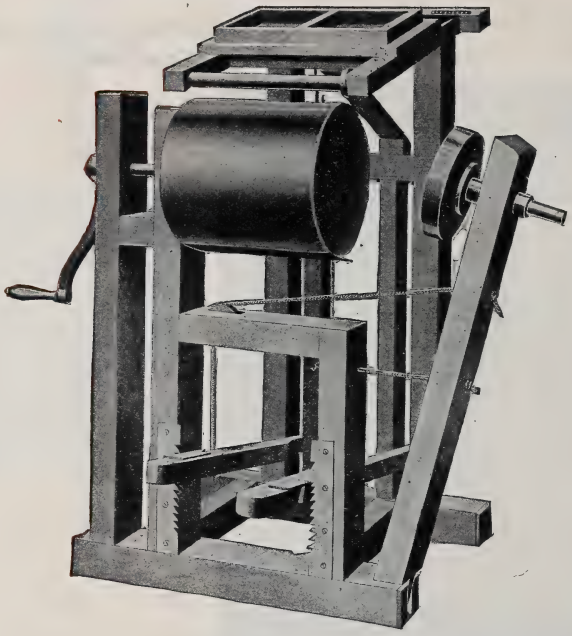
FOR SWISS CHEESE

26-inch, about 1,500 to bundle, per bundle	.....	$....
28 " " " " "	.....	....
30 " " " " "	.....	....

We furnish special sizes of round and square scale boards.

See Monthly Price List for Prices.

CHEESE BOX MACHINE



THE TWENTIETH CENTURY

Cheese factories are often located at long distances from box factories. Factories so situated can effect a large saving in freight by buying boxes K. D. and making them up at the factory.

The Twentieth Century Cheese Box Machine has been in use in cheese-making districts for many years, and is the most practical box machine for use in small factories on the market.

It has been designed with a view to producing a machine capable of very rapid work. The nail-box is very conveniently placed on top of the frame. The crank, foot levers, etc., are all within easy reach. An expert workman can turn out about 200 boxes a day.

To obtain the best results the drum should be proportioned to the size of the box you wish to make, although it will make boxes larger than the drum.

The Twentieth Century is thoroughly well made and nicely finished. It will last for years.

We guarantee it in every way as the most economical, simple, and durable machine on the market.

In ordering machine, state size of box to be made.

Price ---------- $15 00
Extra drums, any size ---------- each, 5 00

CHEESE BANDAGE

"EXCELSIOR"

The Best—The Neatest—The Cheapest

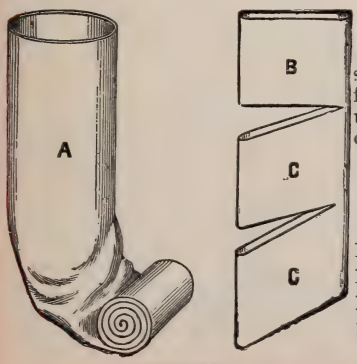


The large increase in our trade for "Excelsior" Bandages is the very best testimonial that could be given for them. They are being exclusively used by many of the largest Cheese Manufacturers in the country, and are giving the very best of satisfaction. They are carefully made from a fine grade of soft cloth and make a finer appearing cheese than any other style of bandage. The warp of cloth which we use in making these bandages runs straight both ways. There is no danger of cracking as is the case with other bandages. We make them both taper and straight seam. The taper seam bandage is for the Fraser style Hoop, and the straight seam for the old style galvanized iron hoop. In using the "Excelsior" bandages, there is no loss in cutting. Every bandage paid for will cover a cheese. The cloth is one-half heavier than that in any other style of bandage. These two items taken into account, make it the cheapest bandage.

STOCK SIZES AND PRICES—Either Taper or Straight Seam.

	Per M.		Per M.		Per M.
7 x 5	$ 6 00	12 x 8½	$15 00	14 x 13	$24 50
7 x 8½	9 00	12 x 9	15 50	14 x 14	25 50
7 x 9	9 50	13 x 6	11 50	14½ x 7	14 00
7 x 9½	10 00	13 x 6½	12 00	14½ x 7 2	14 50
7 x 10	10 50	13 x 7	13 00	14½ x 8	15 00
8 x 8	11 50	13½ x 5	11 00	14½ x 8½	15 50
10 x 6	10 00	13½ x 5½	11 00	14½ x 9	16 00
10 x 8	14 00	13½ x 6	12 00	14½ x 10	18 00
19 x 10	15 50	13½ x 7	13 50	14½ x 12	22 50
10½ x 6	10 00	13½ x 7½	14 00	14½ x 13	25 00
10½ x 7½	11 00	13 x 9	16 00	14½ x 14	26 00
11 x 7	12 50	13½ x 13	24 50	14½ x 15	27 00
11 x 8	13 00	14 x 5½	12 50	15 x 7½	16 00
11 x 8½	14 50	14 x 6	12 50	15 x 9	17 00
11¼ x 7	13 00	14 x 7	13 50	15 x 13	26 00
11¼ x 8	14 00	14 x 7½	14 00	15 x 14	27 00
12 x 6	11 00	14 x 8	14 50	15 x 16	29 00
12 x 7	13 00	14 x 8½	15 00	5½ x 13	12 00
12 x 8	13 50	14 x 9	16 00	5½ x 14	12 50
				5½ x 15	13 00

Other sizes furnished at proportionate prices. When ordering, state for what size of hoop the bandages are wanted.



SEAMLESS

"READY MADE"

We furnish "Ready Made" Bandages in the same size as the "Excelsior". These bandages are made from bleached cloth, in the same weight as the regular cheese cloth, and much coarser than the grade of cloth used in "Excelsior" Bandages.

"SEAMLESS"

7-inch	per yard,	$....
10, 11 and 12-inch	"	....
13½-inch	"	....
14, 14½ and 15-inch	"	....
15½ and 16-inch	"	....

See Monthly Price List for Prices

RENNET EXTRACT

The quantity of rennet required for a certain quantity of milk depends upon the degree of heat of the milk and upon the time desired for coagulating it.

One pint will coagulate from 3,000 to 8,000 pounds of milk, according to heat and time.

CHR. HANSEN'S DANISH RENNET EXTRACT

Considering its curdling power, it is by far the cheapest in the market.

PRICES

Barrels of about 45 gallons	per gallon, $.....
Half-barrels of 20 or 24 gallons	" .....
Ten-gallon kegs	" .....
Five-gallon kegs	" .....
Cases of 6 one-gallon bottles or jugs	" .....
Single gallon	.....

CHR. HANSEN'S RENNET TABLETS

For cheese-making on the farm. One No. 1 tablet is sufficient for 500 pounds of milk, and one No. 2 tablet for 200 pounds. Handy to send by mail. Put up in four styles of packages at the following prices:

1 can, 100 No. 1 tablets (postage 12c. extra)	$.....
1 can, 200 No. 2 tablets (postage 6c. extra)	.....
1 box, 50 No. 2 tablets, by mail, prepaid	.....
1 box, 24 No. 2 tablets, by mail, prepaid	.....

Eight cents extra for registration of mail packages.

"BLUMENTHAL'S" RENNETINE

1 pound by mail, postage paid	$.....
5 pounds, by express	per pound, ...
10 pounds, by express	" .....
25 pounds and upwards	" .....

BEST "BAVARIAN" RENNETS

We import our own rennets, and can recommend them as being a first-class rennet.

In small lots	each, $.....
In 100 lots	" .....
In 500 lots	" .....

CHEESE COLORING

DRY — Annattoine

PRICES

In small lots	per pound, $.....	12½ and 25-pound boxes	per pound, $ ....

ANNATO SEED — Best Quality

Per pound, small quantities	$	25 to 50 pound lots	per pound, ...

CURCUMA

Per pound	$.....	In 25-pound lots	.....

CHR. HANSEN'S DANISH CHEESE COLOR

Produces a rich, creamy, non-fading, uniform color.

PRICES

5-gallon jugs	per gallon, $.....
Cases of six 1-gallon bottles or jugs	" .....
Single gallon	.....
4-ounce bottle	.....
4-ounce bottle, by mail	.....

For Prices see our Monthly Price Current.

CHR. HANSEN'S CHEESE COLOR TABLETS

For farm cheese-making.

Twelve tablets equal in coloring power to 4 ounces of Chr. Hansen's Liquid Cheese Color. Put up in vials holding 12 tablets each. Sent by mail at 30c. a vial.

Box of 12 vials $3 00

Postage, extra, 12c.; registration, extra, 8c.

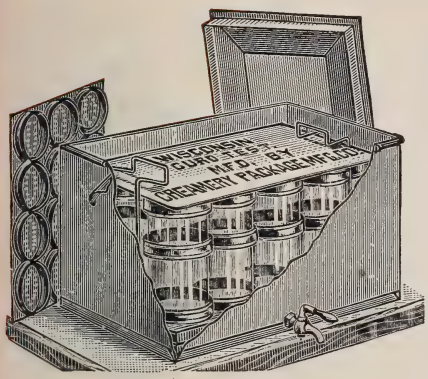
CHR. HANSEN'S COCO-RENNET

A palatable digestive tablet that immediately relieves the distress so often felt after a hearty meal.

One or two of the tablets allowed to dissolve in the mouth after each meal will remove the distress caused by over-eating or indigestion, and will prove very beneficial in all forms of stomach trouble caused by poor digestion. Many cases of nervousness and insomnia are directly traceable to the stomach, and Coco-Rennet has proved quite effective in such troubles. The Coco-Rennet Tablets are put up in packages retailing at 10 cents each. FOR SALE BY DRUGGISTS. Under no circumstances will we be responsible for delivery by mail unless 8 cents extra are sent for registration.

In Ordering Please Write Your Name and Address Plainly.

WISCONSIN CURD TEST



Cheese-makers are often troubled with gassy or floating curd, which makes defective cheese, creamerymen and milk dealers are perplexed with tainted milk without means of finding the source of the trouble. These faults come from some particular lot of milk which contains impurities. The Wisconsin Curd Test detects these defects and enables the cheese-maker, creameryman or milk dealer to trace the fault to the dairy, and the very cow which causes the trouble.

HOW TO MAKE THE TEST

Thoroughly cleanse the jars with live steam or scalding water. Take the rack of jars to the taking-in room; take a sample of milk from the patron, numbering the jar to correspond with the patron's number on the milk sheet, fill the jar about two-thirds full, continue until all the jars in the rack contain a sample. Put on the tight covers and put the rack in the vat. Fill vat with water as high as the milk in bottles, set an oil stove under the vat and heat the water in the vat to 100 degrees F. Take out the rack with jars and shake occasionally. When the milk reaches 98 degrees F. add 10 drops of rennet extract to each jar, shake the rack with a rolling motion, and after the milk curdles let it stand about 20 minutes, or until firm, then cut the curd fine with a thin knife, rinsing the knife thoroughly for each jar. When the curd settles, take the perforated covers and put them on top of the jars, then turn the rack bottom side up and shake gently until all the whey has run off. Let it stand a few minutes in the vat and then repeat the operation until all the whey is drained off. The more completely the whey is drawn off the better the test. Put tight covers on jars and return to vat. Now regulate the wick of the oil stove to hold the temperature at 98 degrees F.

Let the bottles stand from 6 to 12 hours, then open the jars, drain off what whey remains and cut the curd in two pieces; take them from the jar, and those curds having a spongy texture, or bad odor, can be detected by smell, thus showing which patron is furnishing the bad milk. Now take the rack of jars to the patron's barn and take a sample of milk from each of the cows aud test them the same as above; this will locate the identical cow that is causing the trouble.

PRICES

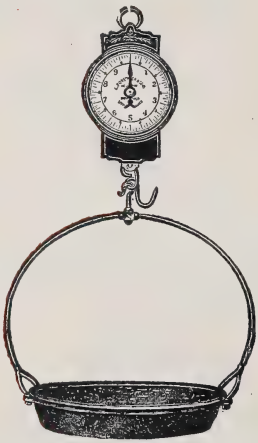
One Dozen Bottle Test, without table	$12 00
Two " " " " "	15 00

EXTRAS FOR WISCONSIN CURD TEST

Bottles, per dozen	$1 00
Vat for 2 dozen bottles	3 00
Vat for 1 dozen bottles	2 50
Bottle strainer for 2 dozen	2 00
Bottle strainer for 1 dozen	1 75
Cover for 2 dozen bottles	1 50
Cover for 1 dozen bottles	1 25
Bottle Frame or Support for 2 dozen	3 00
Bottle Frame or Support for 1 dozen	2 50
Faucets, each	25

SCALES.

SPRING BALANCE.



With Agate Pan, Tinned Iron Bow and Swivel.
No. 0126, Medium, 30 lbs. by 1 oz., each ..$10 00

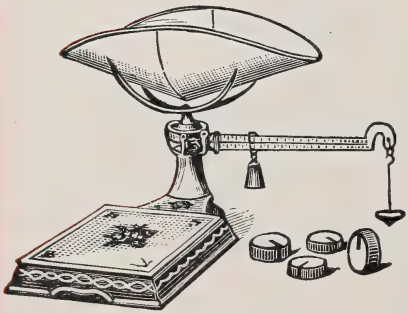
MILK SCALE.



Price, 30 lbs.$5 00
" 60 " 7 00
" 120 " 9 00

UNION SCALES.

Capacity, ½ oz. to 240 lbs.

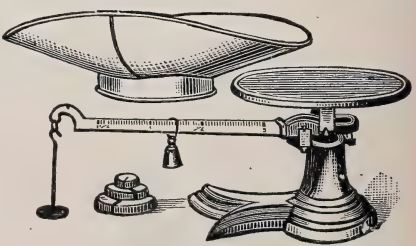


With tin scoop and single beam.....$14 00
" " " " double " 15 00
" brass " " single " 15 00
" " " " double " 16 00

COMMON.

Tin scoop and single beam.....$5 00
" " " double " 6 00
Brass " " single " 6 00
" " " double " 7 00

LITTLE DETECTIVE SCALES.



This little scale is made with steel bearings and a brass beam and will weigh accurately any package from one-quarter of an ounce to twenty-five pounds.

Nothing of the kind has ever been sold for less than $8 or $10.

Every scale is perfect.

Scales, without scoop, boxed, weight 10 lbs.....each, $3 00
With platform, tin scoop and balance weight..... " 3 50
With platform, brass scoop and balance weight..... " 3 75

Write for Discounts.

COST OF A CREAMERY

The question of the cost of a Creamery is asked us many times. It is as difficult to answer exactly as the question, "What will it cost to build a house?"

It depends upon the number of cows butter is to be made from, and the style and capacity of machinery.

We can give approximate figures, however, which will serve every purpose in planning.

A first-class building (not a cheap affair such as creamery organizers build) can be built at from $800 to $1,000. We give a good plan on page 268.

The machinery for making butter from 300 to 500 cows, including 15-Horse Steel Boiler, Comp. French Penn, Alpha Separator of 3,000 pounds capacity, Disbrow Combined Churn and Worker, "Ideal" Milk Weigher, Twentieth Century Milk Heater, and all the other necessary machinery and apparatus, will cost from $1,500 to $2,500.

If a United States, Springer, Russian or any other Hollow Bowl machine is used, the cost of the outfit would be from $100 to $300 less.

These figures will enable any one to make their plans with safety.

We shall be pleased to furnish plans of buildings and complete lists of machinery to suit individual needs, on application.

CREAMERY MACHINERY

In buying machinery of any kind buy nothing but the *best.* It is economy in the long run. It is not always possible to sell the best goods at as low a price as those of inferior quality. As we are the largest manufacturers of creamery machinery in the country, however, our large production enables us to make close prices, and frequently our goods will be found to cost no more, and in many cases less, than those of inferior make. Our prices are uniform, and as for quality, every article is guaranteed.

We take especial pleasure in recommending the Alpha Separators, Farrington Duplex Pasteurizers, New Disbrow Combined Churns and Workers, "Ideal" Skimmed Milk Weighers, Wizard Testers, Twentieth Century Milk Heaters, and our Steel Boilers and Victor Engines. We never offer useless or obsolete articles, and every creamery we equip is done on honor.

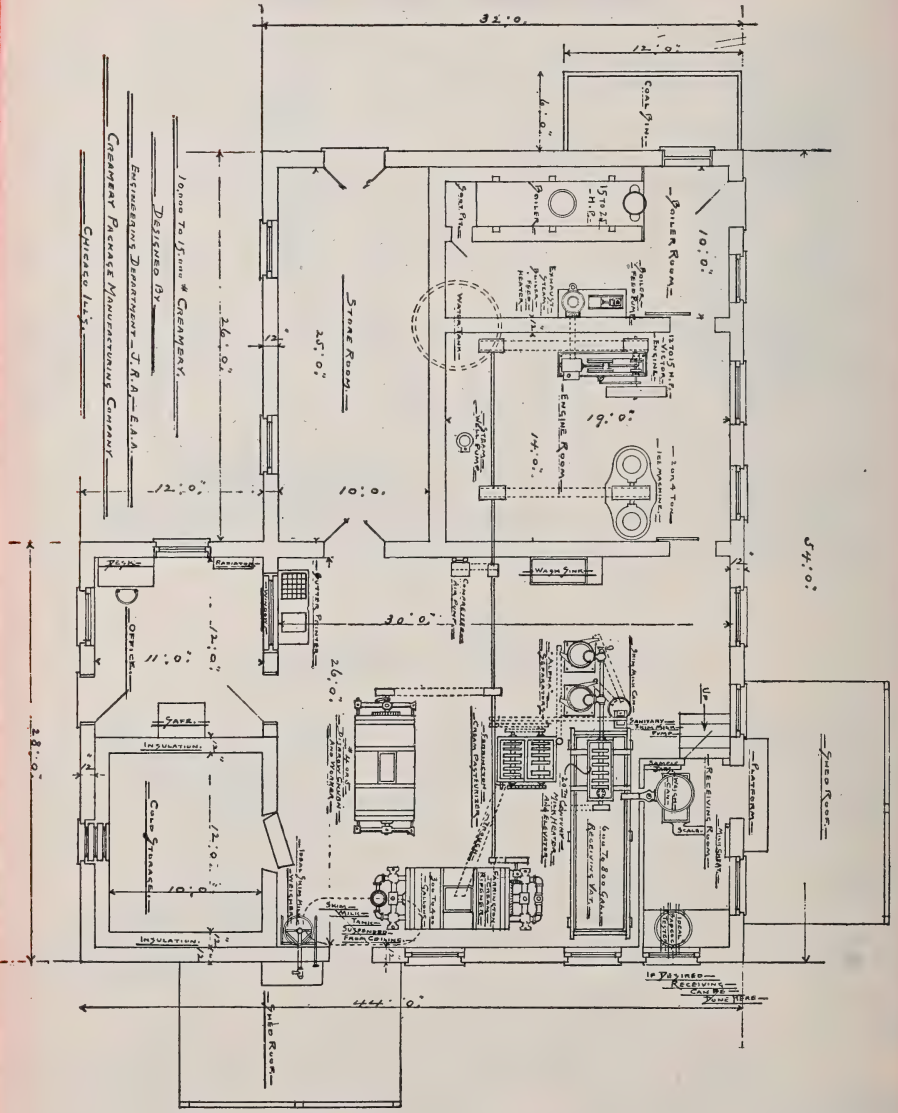
We have furnished the equipment for hundreds of creameries throughout the country, and have scores of testimonial letters expressing the pleasure of the owners with the quality and price of our goods and reliability of our statements.

Should you desire to communicate with some one near you who has dealt with us, please write us; no doubt we can give you the address of some one whom you may know by reputation, if not personally.

We shall be glad to have intending purchasers see or write to any creamery we have ever equipped to ascertain the satifaction we have been able to give in both quality and price.

Please remember, we court inquiry, and at all times are pleased to furnish any information in our power to aid those building creameries.

GROUND PLAN OF CREAMERY



The accompanying cut shows ground plan of an up-to-date creamery capable of handling from 10,000 to 15,000 lbs. of milk per day. This plan has been devised after careful study of the subject, and from long experience we feel warranted in the assertion that for convenience in working and economy of space and cost it could not be materially improved upon, and it has been adopted by many of our customers.

This plan shows the latest and most approved machinery for the manufacture of fine butter in the most economical manner.

Of course, the engine-room can be placed on either side of the creamery, as the situation would make most convenient. We have other plans of Creameries and Skimming Stations, and we furnish to our customers detail plans and specifications for use in building their creamery.

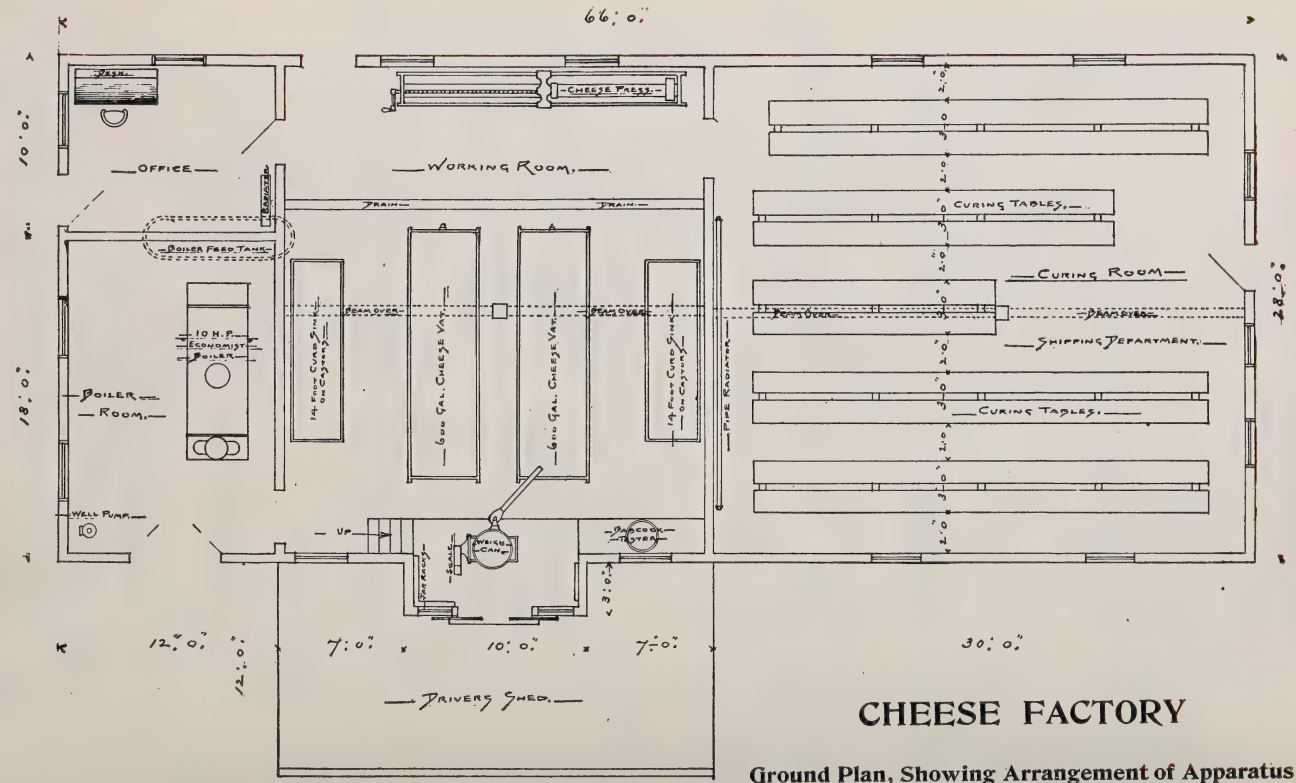
SPECIMEN OUTFIT LIST

FOR 300 TO 500 COW CREAMERY

1 20-H. P. Half or Full Arch front tubular boiler, complete with stack.
1 Boiler Feed Pump and Heater, or Injector as desired.
1 12 to 15 H. P. Horizontal Engine, including Sight Feed Lubricator.
400 Fire Brick.
1 Bbl. Fire Clay.
2 No. 1 Sanitary Whole and Skimmed Milk Pumps.
1 3,000 lbs. capacity No. 1 Alpha Belt Separator.
1 20th Century Milk Heater.
1 Farrington Duplex Cream Pasteurizer.
1 60-gal. Weigh Can with 3-in. Perfection Gate.
1 400-gal. Milk Receiving Vat.
1 300-gal. Farrington Cream Ripener.
1 Farrington Air Compressor.
1 No. 4 Disbrow Churn and Worker.
1 Victor Starter Can.
1 Portable Wash Sink, galvanized lined.
1 Vat Strainer.
1 Disbrow Churn Strainer.
1 24-Bottle Wizard Turbine Tester, complete.
1 Conductor Head.
6 Feet Conductor Pipe.
1 200-gal. Galvanized Steel Skimmed Milk Tank.
1 300-gal. Galvanized Steel Buttermilk Tank.
1 Ideal Skimmed Milk Weigher.
1 Victor Pasteurizer, with Oil Trap.
1 Noiseless or Penbertny Water Heater.
1 Buttermilk Strainer.
1 14-in. or 17-in. Iron Head Mop.
1 50 to 250 Patron Elgin Milk Ledger.
1 Eureka Check Register.
1 dozen weekly, monthly, or semi-monthly Milk Sheets.
1 Newton Computator.
1 Ideal Test Measure (Composite).
1 Babcock Test Bottle Brush.
6 Composite Test Jar Brushes.
25 or more ½-pint or pint Composite Test Jars with Lightning tin top.
1 18-in. to 24-in Butter Trier.
1 8-oz. Graduate (for butter color).
6 Common or Large Floating Thermometers.
1 Butter Packer.
1 Dairy or New York Style Ladle.
1 Factory Ladle.
1 Acme Butter Printer.
1 Canvas Apron (light or heavy weight).
1 600-lb. Double Beam Platform Scale.
1 Butter Salting Scale.
5 12 x 1 1/16-in. Adjustable Drop Hangers.
4 1 1/16 Shaft Collars.
20 ft. 1 1/16 Main Shafting.
10 ft. 1 1/16 Countershafting.
20 ft. ¾-in. 4-ply Steam Hose.
30 ft. ¾-in. 3-ply Conducting Hose.
1 Belt Awl.
100 ft. Cut Rawhide Lacing.
5 lbs. Italian Hemp Packing.
1 lb. each Piston and Cylinder Packing.
1 Spiral Engineers' Favorite or Steam Flue Cleaner.
1 Coal Scoop.
1 Poker.
1 Enterprise or Malleable Pipe Vise.
1 Barnes, Stanwood, or Saunders Pipe Cutter.
2 Stillson, Trimo, or B. & C. Pipe Wrenches.
1 Coe or Alligator Wrench.
1 Zinc, Steel, or Brass Oiler.
1 Well Pump, pulley, or steam style as desired, with necessary pipe rod and cylinder.
Necessary connection and exhaust pipe (black iron or galvanized), for boiler, engine, pumps, wash sink, and buttermilk vats, etc.
Necessary Check, Globe, and Angle Valves for above connections.
Necessary Ells, Tees, Unions, Nipples, Reducers, Couplings, Plugs, etc. for above connections.
1 Main Drive Wood Split Pulley.
1 Main Shaft Wood Split Pulley.
1 Countershaft Wood Split Pulley.
2 Small Pumps Wood Split Pulley.
1 Well Pump Wood Split Pulley.
1 Churn and Worker Split Pulley.
1 Separator Split Pulley.

ONE REFRIGERATING PLANT

The above is a general list for creamery, and is altered to suit needs of purchaser, and demands of location and building specifications. It is intended to give a general idea of apparatus necessary, and will be completed and thoroughly itemized on application. Complete outfit for above sized creamery can be furnished for from $1,500 to $2,500, exclusive of refrigerating plant. Write us for full particulars, plans, specifications, and estimates.



CHEESE FACTORY

Ground Plan, Showing Arrangement of Apparatus

LIST OF APPARATUS AND SUPPLIES FOR CHEESE FACTORY No. 3

To make Full Cream Cheese from the Milk of 500 to 800 cows.

MACHINERY

1 8-H. P. Economist Boiler, complete with all fittings as per page 13 of our large catalogue.
1 5-Beam 600-lb. Scale (Ideal or Fairbanks), with or without wheels.
1 ½-oz. x 240-lb. S. B. Tin Scoop Common Union Scale.
1 Square Pan Spring Balance Salting Scale (20 lbs. x 2 oz.).
1 80-gal. Weigh Can.
1 Light or Heavy Conductor Head and 10 feet of trough.
2 600-gal. Up-to-date Channel Bottom Cheese Vats.
1 10-ft. Curd Sink, copper-lined.

1 Improved Gosselin Curd Mill.
1 Steel Frame Gang Cheese Press.

15 15-in. x 7-in. Tinned Gang Press Hoops.
1 8-in. x 20-in. Horizontal Curd Knife.
1 14-in. blade x 20-in. Perpendicular Curd Knife.
1 Long-handled Gallon Dipper.
1 Short-handled Gallon Dipper.
1 Strainer Dipper.
1 Plain Siphon.
1 Half-round Channel Bottom Whey Strainer, with spout.
2 Tin Curd Scoops.
2 8-oz. Glass Graduates.
1 6-in. x ⅝-in. Cheese Trier, flat handle.
1 Tinned Cheese Knife.
1 Set Months and Dates.
2 14-in. Wood-head Mops.
1 Combined Floor Brush and Mop.
1 Set Test Instruments with Quevennes Lactometer.
6 10-in. Flange Thermometers.
1 No. 5 "Sure Grip" Tackle Block.
1 Set Milk Can Hooks, cross bar, and 25 ft. ¾-in. rope.
1 Speed Knife.
1 24-Bottle 20th Century Turbine Tester, complete.
1 Double Milk Slate.
1 20th Century Cheese Box Machine, 15-in. drum and table.
1 Hygrometer.
1 No. 3 Chief Injector.
1 Victor Paraffining Tank.
1 Marschall Rennet Test.
2 Flat-sided Curd Pails.
1 Wisconsin Curd Test.
25 lbs. Phospho.
1 Curd Rake.
1 Cheese Box and Shelf Scraper with 2½-in. cutter.
Steam heating coils for curing room, with all necessary connecting pipes, valves and fittings.
90 ft. ¾-in. Steam Pipe.
10 ¾-in. Elbows.
6 ¾-in. Couplings.
5 ¾-in. J. D. Globe Valves.
1 ¾-in. J. D. Check Valve.
1 Coal Scoop.
1 Poker.
3 ABC Brushes.
2 2½-ft. x 2½-ft. x 8-ft. Galvanized Steel Whey Tanks.
1 Barber-Colman Check Pump.
1 1½-in. Blakesley Steam Jet Pump with pipe and connections for same.
1 Office Desk.
1 Office Chair.

SUPPLIES

5½ yds. 76-in. Strainer Cloth.
1,000 14½-in. x 10-in. Taper Excelsior Bandages.
1,000 14-in. Cloth Circles.
8 Gallons Hansen's Rennet Extract in bottles.
2 Gallons Hansen's Cheese Color.
1 60-patron Roe Cheese Factory Book.
1 Bundle Scale Boards (whitewood).
100 Sets 15-in. x 8-in. Cheese Box stock.
50 15-in. Press Cloth Circles.
5 Bbls. Cadillac Cheese Salt.

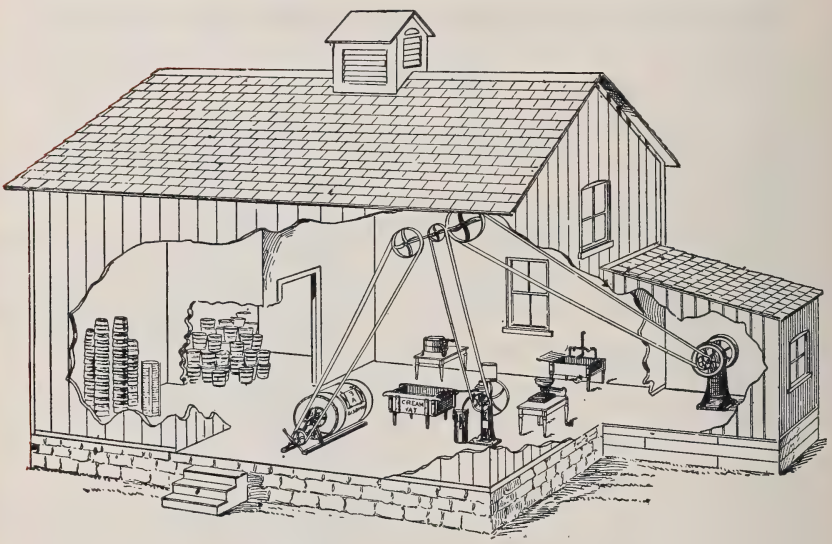
CANS

15 20-gallon Hodo Cans.
25 30 " " "

15 20-gallon Union Cans.
25 30 " " "

FARM DAIRY BUILDING

For a Dairy of 20 to 30 Cows, 14 x 22



DAIRY OUTFITS

NO. 1

For 8 to 20 Cows

Hand Separator, capacity, 350 pounds per hour.
40-Gallon Churn.
Butter Worker.
4-Bottle Babcock Tester.
Complete.....$.....

NO. 2

For 20 to 75 Cows. 1-H. Tread Power

600 pounds per hour Separator.
60-Gallon Churn.
Power Butter Worker.
8-Bottle Tester.
50-Gallon Cream Vat.
Shafting, Pulleys and Belting.
Complete.....$.....

NO. 3

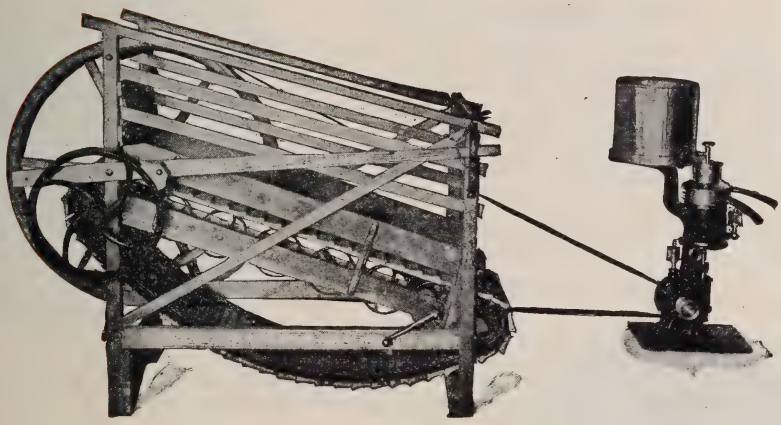
For 75 to 100 Cows. Steam Boiler and Engine. 2-H. Power

1000 pounds per hour Separator.
Combined Churn and Butter Worker.
12-Bottle Babcock Tester.
100-Gallon Vat.
Shafting, Pulleys and Belting,
Complete.....$.....

We make a specialty of fitting out private dairies. We handle and manufacture nothing but first-class goods, and guarantee satisfaction.

Write for Net Prices before Buying.

"IDEAL" DOG POWER



In the "Ideal" we have overcome the weak points of various other dog powers, and removed the objections against small powers in general by manufacturing a power which combines the positive motion, heretofore possible only to large-sized horse powers, with simplicity and lightness. It is constructed in a very substantial manner from carefully selected stock and on thoroughly mechanical principles, and a dog, sheep, or goat will furnish sufficient power to run the various sizes of Dairy Separators.

Connection may be made from the "Ideal" Power directly to crank of separator, churn, or other small machinery. The crank attachment is included with each power. No pulleys, belting, or shafting is required.

Connection can also be made from 12-inch pulley on power to pulley on crank-shaft of separator, or it may be connected as shown in cut.

Price, Plain Power $25 00

Write for prices on large powers.

STRAINERS

MORE'S "PYRAMIDAL"



We sell large numbers of these to Chicago milk dealers, and they all say: "I wish my farmer used them." The brass straining cloth is of so fine a mesh that no cheese cloth is required, and yet the dirt never settles where it can clog.

PRICES.

Strainer, with rest or funnel	**each,**	**$1 50**
" " " and "	"	1 65
Extra rests or funnels	"	15
" strainers	"	40



"COMMON" MILK CAN

This is made of very heavy tin. Has a combined wire strainer and flannel cloth strainer holder. It will fit a milk can, Cooley or the Common Sense Setters.

PRICE.

Each..... $1 00

STRAINERS

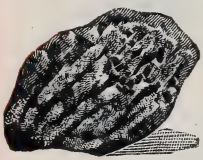
THE "BEVERLY" DOUBLE



The best strainer made. The milk passes through a double system of screens of different meshes. The strainer is provided with a detachable cup into which all impurities which may pass the upper or coarser strainer are deposited, the floating particles never passing the first strainer. The milk is flushed over and through the lower or finer strainer, pure and clean. At no time does milk "wash-over" any previously deposited sediment. By removing the upper and lower cups the strainer is easily cleaned.

PRICES

No. 3, with bowl 12 inches in diameter,	$1 50	Sponge	$0 25
No. 4, " 14 " " "	2 00	Extra rubber washers.....each,	10



By using our specially prepared Sponge in the sieve receptacle of the Beverly Strainer we have a most perfect filter. Straining milk with a sponge extracts nearly every impurity in the milk.

When not in use, keep the sponge in brine water. This will keep it soft as well as sweet. Will fit any size Beverly Strainer.

ELGIN STRAINER



The construction of this strainer is such that there is no trouble with the clogging of the sieve. All of the sediment is collected underneath the convex disc and remains there until cleaned. This disc, which has the sieve in the top, fits into a sleeve in the bottom of the strainer so that it can be easily removed for cleaning.

The Elgin is a perfect strainer.

Price.....each, $2 50



THE "CHAPMAN" CHANGEABLE STRAINER

Very convenient. Easily cleaned. Milk passes two removable strainer cloths that are held in place by a wire spring, all being easily and quickly removed and cleaned. It also has an extra holder for cheese cloth.

PRICE

12-in bowl.....each, $1 25

"LAKIN" BUTTERMILK



Especially adapted for dairy use.

PRICE

No. 1. Family size.....each, $1 50

PAILS.



"IRONCLAD"

"IRONCLAD" TIN

10-quart	.....	each,	$0 60
12	"	"	65
14	"	"	70

RETINNED "SEAMLESS" FLARING

WITH PATENT SEAMLESS FOOT.

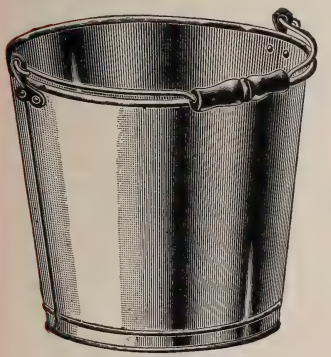
Superior to any other milk pail on the market.

6-quart,	9 x 6¾	inch	..... each,	$0	60
8 "	9½x 7	"	..... "		70
10 "	10½x 8	"	..... "		80
12 "	12½x 9	"	..... "		90
15 "	12 x10	"	..... "	1	00
20 "	13 x11	"	..... "	1	25



"SEAMLESS"

"IDEAL" MILK PAILS.



"IDEAL"

This Pail is made very strong, of XXXX tin, the top and bottom being heavily re-inforced with wire. The bottom is made of No. 22 galvanized iron. Can be furnished with tin bottoms if desired.

PRICES.

10-quart	.. each,	$0	70	per doz.,	$7 20
12 "	.. "		80	"	8 40
14 "	.. "		90	"	9 60

THE "GURLER" SANITARY PAIL

Milk passes through two thicknesses of steril ized absorbent gauze and one thickness of absorbent cotton. Enables any one to produce sanitary milk. Inexpensive to maintain.



PRICES

Each	$1 75
Per doz.	18 00

MILK AND CREAM COOLERS

UP-TO-DATE MILK COOLER



There is no doubt that milk cooled and aerated as soon as milked makes more and better butter and cheese. The Up-to-Date is unquestionably the best cooler on the market for this purpose. It not only cools the milk, but completly aerates it, removing all offensive flavors.

There are several styles of similar coolers on the market, but none of them are constructed of as good material as the Up-to-Date. Made of the best quality of heavy tin, with a galvanized bottom; it is of the same high-grade workmanship as all our goods.

The Up-to-Date is a thorough cooler, reducing the temperature of the milk in one minute nearly to the temperature of the cooling medium. The corrugated surface retards the flow of milk somewhat, and greatly increases the cooling capacity. It is equally well adapted to the use of any cooling medium, either running water, ice water, or, if a very low temperature is not required, ordinary well or spring water. The top is made extra large, so that ice may be put directly into the cooling drum if so desired.

It is automatic, requiring no attention while in use. Low down, simple in construction, and as easily cleaned as a common milk pail. Strong and durable, will last for years, costs but little, and pays for itself in time saved and better quality of product.

Creamery men should insist that each of their patrons use one of these coolers. We quote special prices to creameries and cheese factories on these coolers, to introduce them among their patrons.

The following sizes of the Up-to-Date are gauged, as nearly as possible, to take care of the milk as fast as drawn from various sized dairies with the average number of milkers. Be sure to get one large enough, as best cooling results are obtained with low pressure of milk in the receiver.

No.	Capacity of Milk or Cream Receiver.	Capacity of Water Receiver.	Size of Dairy.	Takes Care of Milkers.	Price.
2	4½ gal.	12 gal.	10 to 25 cows	3	$7 00
3	5½ gal.	20 gal.	25 to 50 cows	5	8 00
4	11½ gal.	28 gal.	50 to 100 cows	8	10 00

Extra sizes on special orders.

"BABY" UP-TO-DATE CREAM COOLER

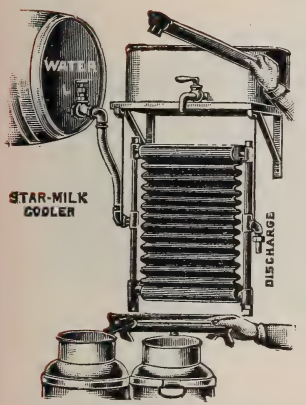


The Baby Up-to-Date Cream Cooler is constructed on the same general lines as the Up-to-Date Milk Cooler, and is designed for use with a hand separator. Only 14 inches high; it sets on the shelf of the separator, and cools the cream as fast as separated. Handled in this way, cream keeps much better, and is of much better flavor, than if separated into a can which is then closed up and set in water to cool.

Price, each $2 00

STAR MILK AERATORS AND COOLERS

ALL COPPER. TIN COATED



This Cut Represents Style of Nos. 1, 2, 3, and 4.

The capacity of Star Coolers is based on hot weather temperatures, having ample reserve. *Capacity guaranteed.*

No. 00. Fixed Trough. For use in dairies of from 10 to 14 cows. Size 13½ inches wide, 22½ inches high, 1000 square inches cooling surface; will cool 40 gallons of milk per hour to 54 degrees with water at 52 degrees.

Plain cooler.....$9 00
Elevated water, complete.....15 00
Syphon attachment, complete.....20 00

No. 0. Removable Trough. For use in dairies of from 14 to 16 cows where two or three men milk. Size 14 inches wide, 20 inches high; 1100 square inches cooling surface; will cool 50 gallons of milk per hour from 54 degrees with water at 52 degrees.

Plain cooler.....$15 00
Elevated water.....20 00
Syphon attachment, complete.....27 00

Nos. 1, 2, 3, and 4 have Removable Trough and a galvanized frame around the cooling surface, which protects same.

The water enters and discharges through frame which hangs on centers; cooler turns over to be cleaned, and does not have to be removed from brackets, saving time and handling. Short trough at bottom of cooler can be turned from one can to another without spilling the milk.

No. 1. Twenty-two inches wide, 24 inches high, 1200 square inches cooling surface, for three or four milkers. Will cool 60 gallons of milk per hour to 54 degrees with water at 52 degrees.

Plain cooler for ¾-inch fittings.....$25 00
Elevated water, complete.....30 00
Syphon attachment, complete.....37 00

No. 2. Milk flows down over 50 inches cooling surface. Outside, 24 inches wide, 27 inches high, 1700 square inches of cooling surface; for four to seven milkers. Will cool 90 gallons of milk per hour to 54 degrees with water at 52 degrees.

Plain cooler for ¾-inch fittings.....$27 00
Elevated water, complete.....33 00
Syphon attachment, complete.....40 00

No. 3. Milk flows down over 60 inches cooling surface. Outside, 31 inches high, 28 inches wide, 2760 square inches cooling surface; for six to twelve milkers. Will cool 125 gallons of milk per hour to 54 degrees with water at 52 degrees.

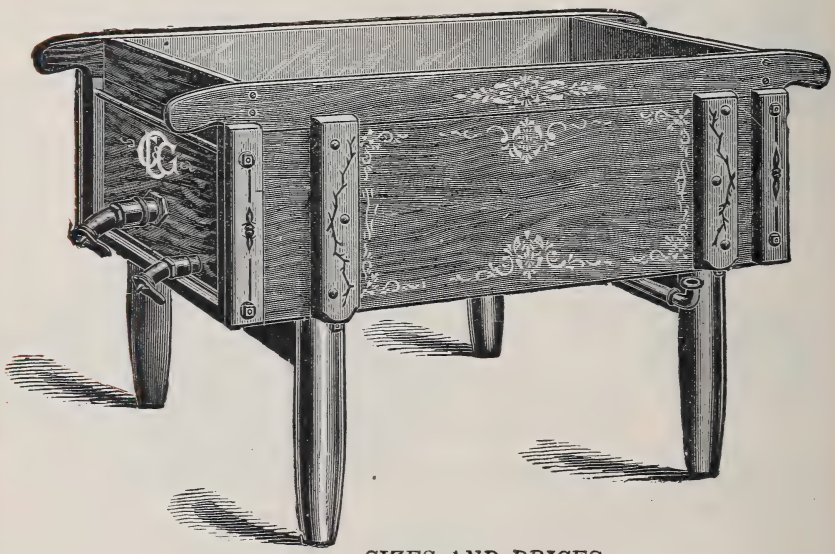
Plain cooler for 1-inch fittings.....$35 00
Elevated water, complete.....42 00
Syphon attachment, complete.....49 00

No. 4. Thirty inches wide, 46 inches high, 3970 square inches cooling surface. Will cool 200 gallons of milk per hour to 54 degrees with water at 52 degrees.

Plain cooler for 1¼-inch fittings.....$70 00
Elevated water, complete, same fittings as smaller size, but with 15 gallon milk tank.....80 00
Syphon attachment, complete.....90 00

SMALL CREAM AND CHEESE VATS.

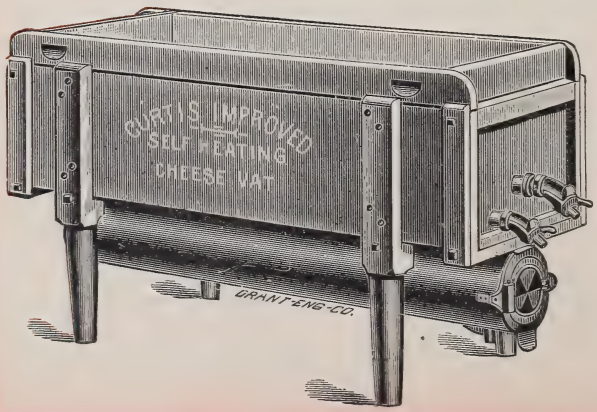
FOR PRIVATE DAIRIES.



SIZES AND PRICES.

25 gallon vat, with ice box on end	$20 00
50 " " " " " "	25 00
75 " " " " " "	32 00

SELF HEATING DAIRY CHEESE VATS

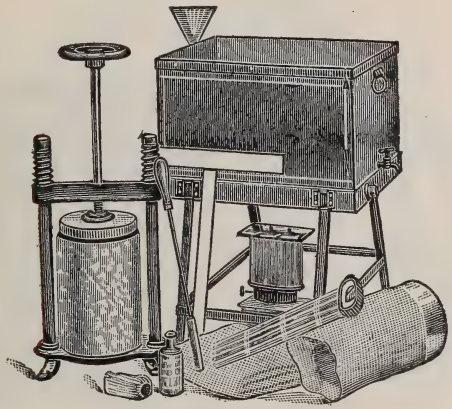


This vat is designed for large and small dairies that desire to make up their own milk into cheese. We furnish all other implements to go with it.

SIZES AND PRICES

25-gallon vat, $30 00
50 " " 32 00

FAMILY CHEESE-MAKING APPARATUS



A very simple Apparatus, adapted to the wants of all farmers or dairymen. So simple that any girl or boy of average intelligence can learn the process in a very few operations. It makes perfect cheese each time, whether five pounds or more.

The milk is heated by a coal oil lamp, which is easily kept under control. The heating vat is so constructed that the lamp gives all the heat that is necessary. The management of the heat is the secret of success in making good cheese. It does not take up quite as much room as an ordinary kitchen table. A lady can make cheese in the kitchen or pantry, and carry on her household work at the same time.

With each machine we send simple and full instructions how to make cheese successfully.

Each Apparatus is complete with Heating Vat, Press, Curd Knife, Lamp, and Thermometer. Made of good material, strong, and well finished.

The Apparatus is guaranteed to do the work exactly as represented.

SIZES AND PRICES

		Without Press and Hoops	With Press and Hoops
No. 1.	Capacity, 10 gallons	$10 00	$14 00
No. 2.	Capacity, 20 gallons	12 00	16 00
No. 3.	Capacity, 30 gallons	14 00	18 00

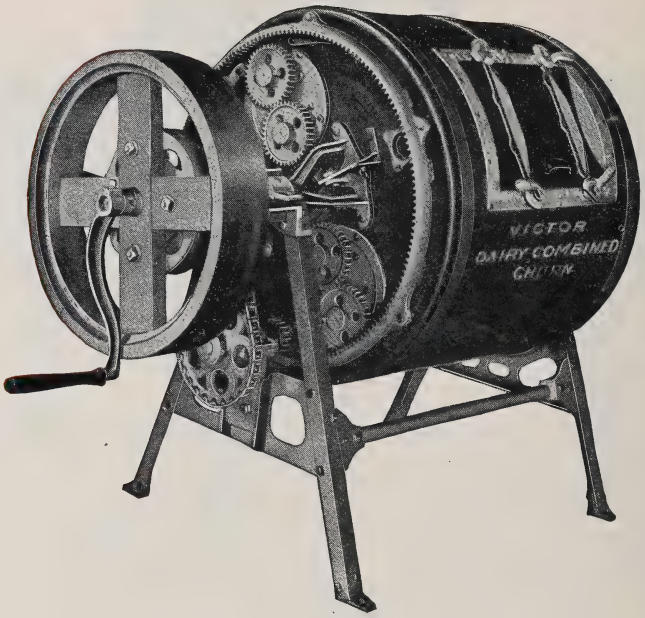
NET PRICES OF EXTRAS

Curd Knife for No. 1	$1 00	Special Wicks for Lamps, per yard	$1 00
Curd Knife for No. 2 or No. 3	1 50	Press, only, for No. 1	5 00
Galvanized Hoop (same size for all)	1 00	Press, only, for No. 2	7 00
Tin Cylinder (same size for all)	50	Press, only, for No. 3	10 00
Special Lamp for No. 1	1 00	Thermometers, each,	25
Special Lamp for No. 2	2 00	Funnel, "	25
Special Lamp for No. 3	2 50	Wooden Stirrer, "	40

"Hot Iron" Test Iron $0 50

L. of C.

"VICTOR" DAIRY COMBINED CHURN.



STYLE A1, A2 AND A3. FOR DAIRY USE ONLY.

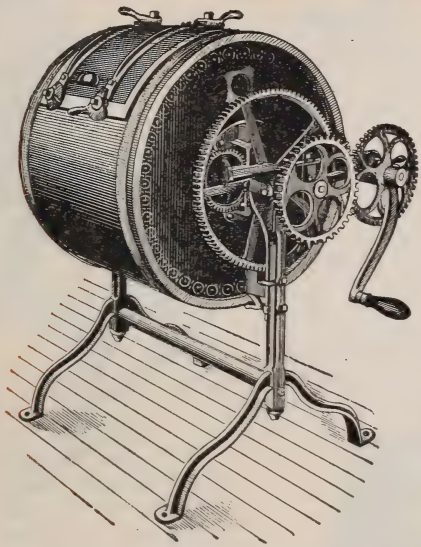
These churns have an 18-inch clutch pulley with 4-inch face, speed at 34.

For years the effort has been made to create a dairy churn that would bring the small dairy to a level with the factory in the production of first-class butter in a rapid and uniform manner. Taking the factory "Victor" as a guide, we have at last produced a strictly farmers' Combined Churn and Butter Worker, the "Dairy Victor," at a price that is within the reach of all, as complete in its operations as the now famous factory "Victor," and can be run by dog, goat, sheep or pony power. These three strictly farmers' churns are all furnished with pulley, and the A1 machine can be run by hand; a crank is furnished when desired.

SIZES AND PRICES OF DAIRY CHURNS.

	Diameter	Length Outside	Length Over All	Shipping Weight	Capacity in Pounds	Price
A	2 ft. 10 in.	2 ft. 4 in.	4 ft. 4 in.	300	10 to 80	$95 00
AA	2 ft. 10 in.	3 ft.	5 ft.	350	10 to 100	110 00

"BABY" DAIRY COMBINED CHURN.



The "Baby" is a geared machine run by hand, and so constructed that two rollers and two simple lifting boards serve to do the churning, and the working of the butter with no change of gearing.

In working, the turning of the shaft puts the rollers in motion, lifts the butter from the bottom of the churn, places it upon the rollers, and stops the churn until the butter passes downward through the rollers, then starts the churn again, and lifts the butter as before to the top of the rollers, continuing the process as long as the crank is turned.

When the churning is to be done, the working rollers are fixed (do not turn on their axis), until the time for working the butter comes, and both in churning and working the turning of the crank is all the operator has to do, as the needed changes in the gearing are made automatically, entirely relieving the operator from all trouble of placing pins, moving levers or shifting belts, no shifting of parts being necessary.

One very attractive feature of this churn, which recommends it highly, is the ease with which the butter can be removed from it. When the working is completed, the door brought to the convenient point, the churn stopped, and the door removed, it will be found that the butter is massed on the lifting board and the rollers in front of the door in the most convenient position possible for removal, and the churn is held in that position by its own devices until the work is finished.

The chief objection that has been raised against combined churns and workers for small dairies and for farm use is their cost, and in producing the "Baby" we have sought to overcome this objection by bringing out a churn so low in price as to be within the reach of all.

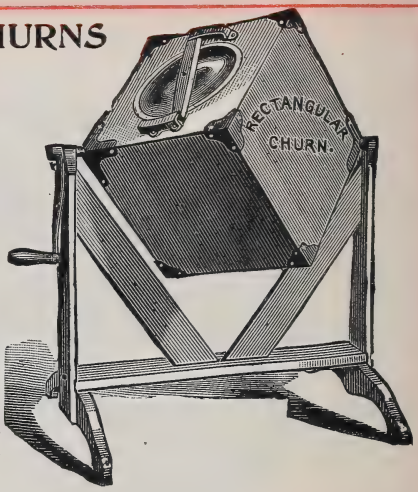
The "Baby" is made with iron supports and frame, neat, light and strong

PRICES.

No. 1, capacity 5 to 30 pounds of butter.....$40 00
No. 2, capacity 5 to 40 pounds of butter..... 45 00

DAIRY BOX CHURNS

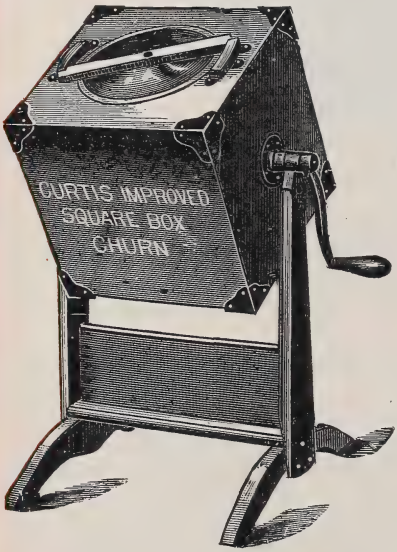
RECTANGULAR.



SIZES AND PRICES.

No. 0,	holding 7	gallons	.....	$ 8 00
" 1,	" 10	"	.....	8 50
" 2,	" 12	"	.....	9 00
" 3,	" 20	"	.....	10 00
" 3½,	" 26	"	.....	12 50
" 4,	" 40	"	.....	16 00
" 5,	" 60	"	.....	23 00
Tight and loose pulley,			3 x 12..	3 50
"	"	"	3 x 14..	4 00

We can furnish churn stands for any style of dairy churns at from $2.00 to $5.00 each.



The Nos. 4, 5 and 6 are adapted to large dairies, and are more convenient than the No. 5 Rectangular. They have a crank on one side, a long gudgeon for pulleys on the other. Strong bands and rods running around the churn make them very substantial.

SIZES AND PRICES.

No. 0,	holding 7	gallons	.....	$ 8 00
" 1,	" 10	"	.....	8 50
" 2,	" 12	"	.....	9 00
" 3,	" 20	"	.....	10 00
" 3½,	" 26	"	.....	12 50
" 4,	" 40	"	24 x 24 in...	16 00
" 5,	" 60	"	26 x 26 in...	23 00
" 6,	" 80	"	.....	26 00
Tight and loose pulley,			3 x 12.....	3 50
"	"	"	3 x 14.....	4 00

Prices given are without pulleys.

IDEAL DAIRY BARREL CHURNS.



No. 0.	5-gal.	churn,	churns from	1 to	2 gal.	cream,	$8 00
" 1.	9-gal.	"	"	1 to	4	"	9 00
" 2.	15-gal.	"	"	2 to	7	"	10 00
" 3.	20-gal.	"	"	3 to	9	"	11 00
" 4.	25-gal.	"	"	5 to	12	"	14 00
" 5.	35-gal.	"	"	5 to	16	"	16 00
" 5½.	45-gal.	"	"	5 to	22	"	22 00
" 6.	60-gal.	"	"	6 to	28	"	26 00
" 7.	70-gal.	"	"	7 to	34	"	30 00
" 8.	98-gal.	"	.....				35 00

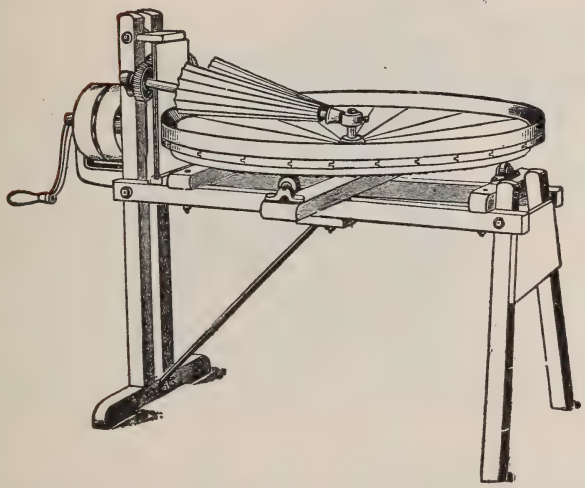
In churning a large amount of cream in the different sizes, more time will be consumed.

Acme or Boss churn furnished where wanted.

12x3 tight and loose pulleys, per set.....$2.50

DAIRY BUTTER WORKERS

"MASON" HAND OR POWER



The increase of the use of the small separator in the dairy has created a demand for hand or power workers of smaller capacity than that of our factory size. We are now prepared to fill orders for two sizes smaller than the factory worker.

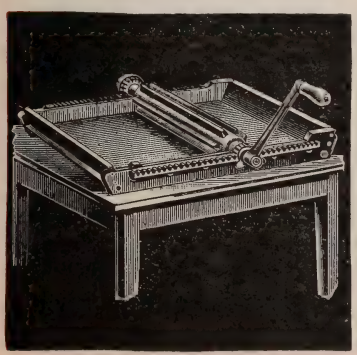
SIZES AND PRICES

No. 0. 3-ft. table, galvanized castings, capacity, 60 lbs., pulley 12x3 in., speed 60 revolutions, weight 140 lbs. $25 00
No. 1. 4-ft. table, plain castings, capacity, 75 lbs., pulley 12x3 in., speed 60 revolutions, weight 290 lbs. 35 00
No. 1. 4-ft. table, galvanized castings, capacity, 75 lbs., pulley 12x3 in., speed 60 revolutions, weight 290 lbs. 45 00

"REID"

PRICE

No. 1,	size	23x36	in. and	2½	in.	deep,	inside;	capacity,	50	lbs.;	weight, 45	lbs $10 00
" 2,	"	20x36	"	2½	"	"	"	30	"	"	29	" 8 00
" 3,	"	17x27	"	2½	"	"	"	20	"	"	25	" 7 00
" 4,	"	14x23	"	2½	"	"	"	10	"	"	20	" 6 00



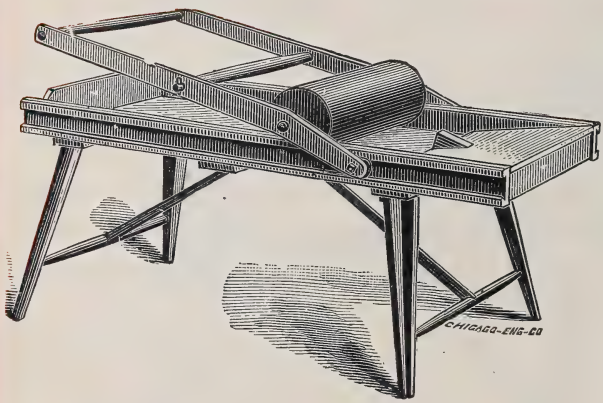
Three pounds can be worked in any of the above machines, as well as a larger quantity.

We also manufacture larger sizes, specially designed for mixing, re-working and coloring, or for creamery use.

No. 0, size 23x37 in. and 3 in. deep, inside; capacity, 75 lbs.; weight, 60 lbs.. $12 00
No. 00, size 23x56 in. and 3 in. deep, inside; capacity 112 lbs.; weight, 80 lbs.. 15 00
No. 000, size 23x72 in. and 3 in. deep, inside; capacity 150 lbs.; weight, 100 lbs.. 18 00

When desired, we can send legs along with any size machine for $4.00 extra, which can be set up after arrival at destination.

BUTTER WORKERS.



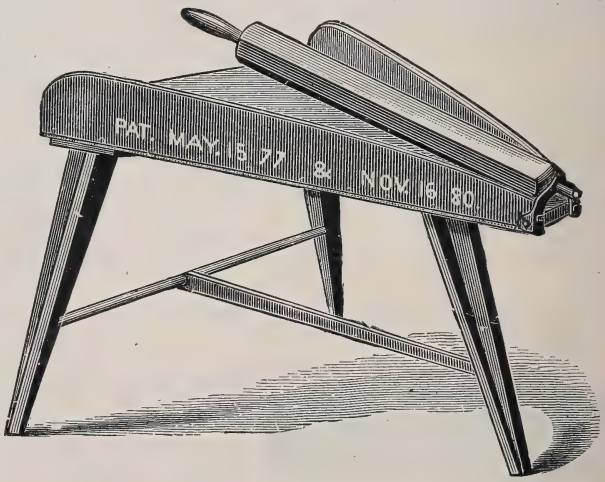
IMPROVED EUREKA.

The Eureka worker is so constructed that all portions of the butter are equally worked with an even pressure. The brine and buttermilk are drawn off, the butter rolled out into a thin sheet, a portion of salt sifted on, and then by a quick backward motion of the roller the butter is turned bottom side up or folded in the tray, rolled out again, more salt sifted on, again turned and rolled. This worker has folding legs, same as on the Lever worker.

SIZES AND PRICES.

No. 1,	**family size,**	**will work**	**25**	**pounds,**	**weight,**	**70**	**pounds**	.....	.....	**$10 00**
" **2,**	**dairy**	"	"	50	"	"	80	"	.....	12 00
" **3,**	**factory**	"	"	75	"	"	100	"	.....	15 00
" **4.**	"	"	"	100	"	"	130	"	.....	20 00

LEVER.



This cut represents the Lever worker with our patent folding legs, which can be taken down and set up again in a moment's time by anyone; and when set up it stands firm and substantial. It has no equal, because it has more good points and fewer poor ones than any other, and is, therefore, the most deservedly popular butter worker in the country; and what is more to the purpose, it has been purchased and practically tested from day to day by hundreds of dairymen in all parts of the country, and is by them universally commended. With it the butter can be re-worked and freed from the last vestige of buttermilk, and the grain of the butter preserved intact.

SIZES AND PRICES.

No. 0,	**20 inches wide,**	**will work**	**15**	**pounds**	**weight**	**30**	**pounds**	.....	.....	**$ 5 00**
" **1,**	30	"	"	25	"	"	40	"	.....	6 50
" **2,**	40	"	"	35	"	"	60	"	.....	7 50
" **3,**	**factory size,**	"		60	"	"	80	"	.....	**12 00**

Write for Discounts.

THE "IDEAL" BOILER AND STEAM FEED COOKER



The long felt need of a good, reliable farm boiler for cooking feed, heating water, etc., is supplied by The IDEAL BOILERS, which are made from boiler iron, and have regular lap-welded boiler flues, making them durable, rigid and strong in all their parts, and will last, with ordinary care, a life-time. They are well riveted and corked, and while we test these boilers at 100 lbs. hydraulic pressure they are only intended for use when low pressure is required.

The IDEAL BOILERS are claimed to be the best in the market for the following reasons: They are made of heavier and better material, and as they have a number of boiler flues passing directly through the water, thereby distributing the heat, they require less fuel than other boilers, and the boiler is provided with grates, which adapts them to the burning of all kinds of fuel, such as coal, wood, corn-cobs, etc. Any careful buyer can readily see that the Ideal boilers, or feed cookers, manufactured from the quality and weight of the material used in these boilers, are capable of running and giving good service for an unlimited number of years.

The IDEAL STEAM BOILER will cook or steam any kind of food placed in a barrel or vat, with but little care and without danger of burning, thus overcoming the objections to a kettle or cauldron. It will steam *dry corn stalks and straw* so that they will become soft and palatable, and *cook potatoes* so as to render them digestible and valuable for food. It will also enable a farmer to *save one-third to one-half of his corn* and other feed, and at the same time make his *stock thrive better.* It will *save labor in feeding*, rather than increase it, as stock fatten much faster when their feed is cooked.

SIZES AND PRICES.

Size No.	Diameter of Shell.	Height of Shell.	No. of 2-inch Flues.	Length of Boiler Over All.	Shipping Weight.	Price.
1	19 inches	40 inches	9	54 inches	325 pounds	.....
2	19 "	44 "	13	58 "	370 "	.....

Steam gauge and glass water gauge complete, fitted, extra.....$....

The trimmings include two gauge cocks, blow-off cock, pump for supplying the boiler with water, safety valve, 2 feet 6 inch suction hose, 3 feet steam pipe, with valve, to convey steam to barrel or vat, for cooking feed or boiling water.

Write for Prices.

TINWARE

POURING CANS

These cans are made of **extra heavy XXXXXX tin,** being well bound with a heavy iron hoop at the bottom covered with a brass one. The end of the spout is also protected by a brass band. All seams are well soldered inside and out so that the cans are perfectly smooth, leaving no crevices for milk to get in and sour. The bottoms are raised and japanned making them rust-proof. The bails are made of heavy copper wire. A detachable strainer of extra heavy wire strainer cloth is used on inside of can, being held in place over the outlet by means of small clips. The can is, therefore, very easily cleaned.



SIZES AND PRICES

1½ gallon	each,	$3.00
2 "	"	3.25
2½ "	"	4.00
3 "	"	4.25

BUTTERMILK CANS

Summer trade calls for a special style of can to supply the demand for buttermilk. They have chained covers and well fastened spouts, and are made in two styles—light for barroom and restaurant trade, and heavy for wagon use. All sizes have wire protected and japanned bottoms and smooth seams.



SIZES AND PRICES

LIGHT

2 quart	each,	$0.60
3 "	"	.70
1 gallon	"	.80

HEAVY

1 gallon	each,	$1.00

Other sizes made to order in dozen lots.

TINWARE

CREAM CANS

With Chained Cover

These cans are designed to be used for cream that is sold in large quantities to restaurants, stores and small dealers. They are well made of heavy block tin and all seams are soldered perfectly smooth inside and out. The six-quart sizes and smaller have wire protected japanned bottoms. The eight-quart sizes and larger have heavy tinned hoop and raised japanned bottom. The cover is chained with tinned linked chain, preventing the covers from being lost through carelessness. The handle is attached to the side, because it has been found more convenient for handling than where the old style bail is used.



SIZES AND PRICES

Size	2 quart	3 quart	1 gallon	1½ gallon
Price	$0.70	$0.75	$0.85	$1.00
Size	2 gallon	2½ gallon	3 gallon	4 gallon
Price	$1.25	$1.40	$1.60	$2.00

CREAM CANS

With Cover Measure

This style of can is very convenient for the deliverer. The cover is made to be used as a half pint graduated measure, thus doing away with extra measures. It may also be used to advantage for the same purpose as the chained cover cans.





SIZES AND PRICES

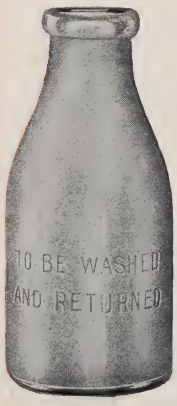
Sizes	2 quart	3 quart	1 gallon
Price	$0.75	$0.85	$1.25

IDEAL MILK JARS

(No. 2, Cap Finish)

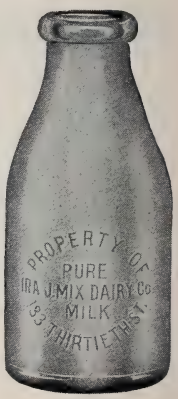
EXTRA HEAVY

Strictly **hand made** and free from spots, cords, rough edges and curls. Made of clear, flint glass evenly distributed and properly annealed. With this jar is used a wood pulp cap or cover which seals the jar perfectly, making a receptacle in which milk is kept free from all outside influences such as moisture, dust, dirt, odors, disease germs, etc. This jar has a regular medium tapering neck as shown in cut.



Plain

Lettered jars are furnished in lots of **one gross** or more, of **each size ordered,** at the same price as regular plain jars with an additional expense of $2.50, which is the **cost of lettering each size** name plate. This extra expense is on the **first order only. Each single size** jar must have a **different** size name plate. Six weeks is the usual time required to execute an order for lettered jars.



Lettered

PRICES

	Per dozen	Per gross	Three gross	Five or ten gross	
¼ pint	$0.75	$7.50	$7.00	$6.50	per gross
½ "	.80	8.00	7.50	7.00	"
Pint	.85	8.50	8.00	7.50	"
Quart	1.00	10.00	9.50	9.00	"
½ gallon	1.60	17.50	17.00	16.50	"

Prices of larger quantities and carloads on application. Can furnish extra heavy jars at twenty-five cents per gross extra. Quarter pint jars are furnished **plain** only.


Slim Neck Jar

SLIM NECK JARS

These jars are made of the same quality glass as our regular Ideal Jars but have a very slim tapering neck, which shows a very deep cream line. These jars can be furnished in quart and pint sizes only and in nothing less than gross lots of one or more sizes. Time required to execute orders, either plain or lettered, four to six weeks. Cost of lettering plates same as described under Ideal Jars.

Can also furnish **square graduated jars** plain or lettered. Prices on application.

Imperial Measure Jars furnished in half pint, pint and quart sizes, plain or lettered.

Five and six to the gallon jars also furnished.

Write for Prices



Acme

ACME JARS

(No. 2, Cap Finish)

EXTRA HEAVY

These Jars represent the acme of perfection in the manufacture of glass milk jars. Each year the sale of Acme Jars increases, showing that satisfied customers are using them. They are made of the same material as our Ideal Jars, but are furnished with a rounded bottom instead of a flat bottom. Acme Jars are made extra heavy to withstand rough usage. Can be furnished plain or lettered, as desired. Cost of lettering and other conditions same as described under Ideal Jars.

PRICES

	Per Dozen	Per Gross	3 Gross	5 or 10 Gross
Half pint.....	$0.75	$ 7.50	$ 7.25 per gross	$ 7.00 per gross
Pint.....	.85	8.50	8.00 "	7.50 "
Quart.....	1.10	11.00	10.50 "	10.00 "

Prices on larger quantities and carloads on application.

TIN TOP JARS

Combination Cap and Tin Top Finish


Combination Cap and Tin Top Finish

Our Tin Top Jars are the same in general appearance as the Ideal Jars. They have the seat or cap finish in addition to the tin top trimming or cover, so that when desired pulp caps can be used. (See cut.)


Tin Top

PRICES

	Per Dozen	Per Gross	3 Gross	5 or 10 Gross
Half pint.....	$1.10	$10.00	$ 9.00 per gross	$ 8.50 per gross
Pint.....	1.15	10.50	10.00 "	9.50 "
Quart.....	1.25	13.00	12.50 "	12.00 "
Half gallon.....	2.00	20.00	19.00 "	18.00 "

Can be furnished lettered at same price for name plates as described under Ideal Jars. Special prices in larger quantities and car lots.

Lightning Tin Top Trimmings with cover, spring and wire fastener can be easily attached to jars where old trimmings become rusty or worn out. Furnished in dozen, half gross or gross lots.



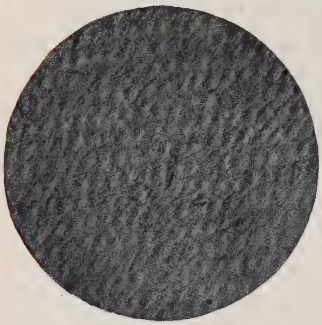
PRICES

One Dozen	Half Gross	Gross
$0.20	$1.00	$1.75

PULP CAPS

(Flat, No. 2 Finish)

All of our caps are made of the very best of spruce fibre and are absolutely odorless and tasteless. We use the very best white paraffine in waterproofing and spare no pains in making them befitting the purpose for which they are intended. All paraffining is done after the caps are cut, so that the edges as well as the sides of the caps are made thoroughly waterproof.



Plain

Flat caps are furnished in four different grades, as follows:

Keystone Brand. Made of heavy stock, heavily paraffined and represents our best cap.

Shield Brand. Similar to the Keystone brand but made of stock a little lighter in weight; also heavily paraffined.

Bell Brand. This is an **un**paraffined cap and is made of the same thickness and quality of board as the Keystone but is not waterproofed. Not furnished in lots of less than 5,000.

Diamond Brand. Represents our cheapest cap. It is **unwaterproofed** and made of stock a trifle thinner than the Shield brand. Not furnished in lots of less than 5,000.

Printing. The Keystone and Shield Brand Caps can be printed in lots of 10,000 or more at no extra expense, but when 5,000 only are ordered printed there will be an extra charge of seventy-five cents made to cover the cost of making a printing die. This expense will be on the first order only. Customers having previously ordered printed caps of us and wishing to **change** the printing will be requested to pay this extra charge providing only 5,000 are ordered.



Printed

We make special arrangements with customers desiring to order a year's supply of caps and allowing us to ship as needed, in lots of 100,000 or more at a time. Give us the number of caps you use per year and the amount and number of shipments per year, and we will quote you prices.

PRICES

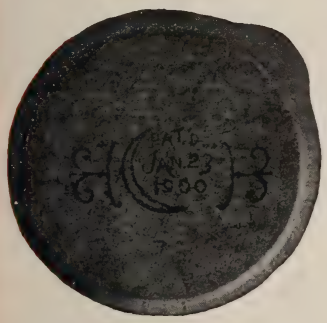
Brands	1,000 Lots	5,000 or 10,000 Lots	25,000 ½ bbl. Lots	50,000 1 bbl. Lots	250,000 5 bbl. Lots	
Keystone	$0.70	$0.55	$0.35	$0.32	$0.30	per 1,000
Shield	.55	.45	.32	.30	.28	"
Bell	...	.40	.30	.25	.24	"
Diamond	...	.35	.27	.24	.23	"

PULP CAPS

OUR LATEST CAP — THE HYGIENIC "CRIMP LIP."

Patented { **January 23, 1900.**
December 3, 1901. Other patents pending

The cap embodies a large number of very valuable sanitary features. Every housekeeper has been more or less aggravated by splashing cream on the floor, wall, or over her hands and dress while removing the old style cap. These vigorous efforts also tend to shake the bottle, mixing the cream with the milk, oftentimes breaking the fork, knife or other instrument used in removing the cap. By this method of extracting the cap, small particles of glass may be broken off the edges of the bottle and are very liable to fall in the milk, rendering it quite dangerous for use.



Plain

In removing the old style cap it is punctured and rendered unfit for further use in case it is desired to use only a part of the milk or cream, and have the balance left to be placed in the refrigerator.

Around the outer edges of the old style cap, dust, water, sand and disease germs accumulate. When the cap is removed this accumulation settles in the milk.

With the "Crimp Lip" Cap all of the objectionable features are overcome. The lip is designed to be used in taking the cap from the bottle in place of a sharp pointed instrument. The cap is left in perfect condition and can be used as many times as necessary.

The extended rim of the cap engages the sides of the mouth of the bottle, filling it completely and covering any misshapened side perfectly, preventing any dust, sand or other accumulation from seating itself on the rim of the cap. This is all gathered in the hollow of the cap and is taken off with it. This is a very important feature, thus preventing any microbes or disease germs from entering the milk at any time.

"Crimp Lip" Caps can be furnished printed with customer's name in lots of 6,000 at an extra expense on the first order only of seventy-five cents for lettering the printing die. No extra charge is made for printing in 12,000 lots or over. Put up in cartons containing 1,000, baskets containing 6,000 and 12,000, and drums containing 25,000 and 50,000.



Lettered

PRICES

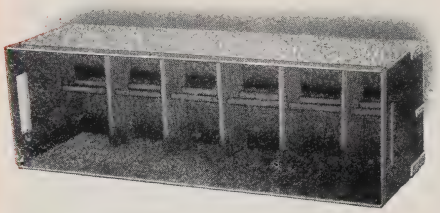
1,000 Lots	6,000 or 12,000 Lots	25,000 Lots	50,000 Lots	250,000 Lots
$0.70	$0.55	$0.45	$0.42	$0.40 per 1,000

Write for prices in larger quantities. Samples sent on request.

MILK JAR DELIVERY CASES

GALVANIZED IRON

This case is strong and light, being well made of heavy galvanized iron. Around the outside at the top is placed a strong iron band, the galvanized iron being turned around this band. Three strips of band iron extending lengthwise of the bottom and up the ends make the bottom rigid and prevents continual wear. All seams are half inch and soldered entire length. Handles are reinforced by an extra strip of band iron. It is also fitted with a removable dowl rack to make cleaning easy.



In warm weather crushed ice may be placed between and on top of the jars after they are in the cases. The rack will keep the ice up around the necks of the bottles, keeping the cream thoroughly cool.

These cases are especially desirable for those wishing to fit their wagons with them, using iron shelves for rests.

Our galvanized cases are guaranteed to be the best that can be procured. We have a department devoted exclusively to their manufacture, and no money or time is spared to make them right. The number of duplicate orders we receive demonstrates that they are satisfactory in every particular.

SIZES AND PRICES

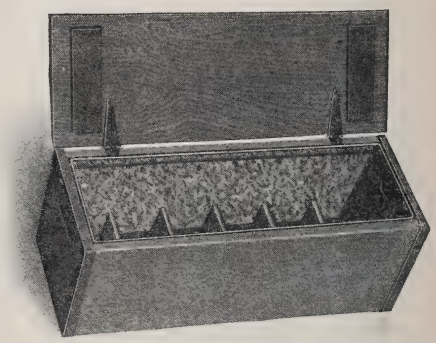
Sizes	Twenty-four ½ Pint	Twelve Pint	Twelve Pint	Eighteen Pint	Eight Quart	Twelve Quart	Twelve Quart	Twelve ½ Gallon	Twelve ½ Gallon
Arrangement.	3 x 8	2 x 6	3 x 4	3 x 6	2 x 4	2 x 6	3 x 4	2 x 6	3 x 4
Price	$1.50	$1.35	$1.50	$1.65	$1.30	$1.50	$1.50	$2.10	$2.10

In one dozen lots ten cents per case less. For galvanized rack add ten cents per case.

Any size furnished to order. Write for further information, giving quantity, size, arrangement and style of rack wanted. Special prices in large quantities.

REFRIGERATOR CASES

These cases are made of one inch well seasoned lumber, are carefully nailed and bound clear around each end with galvanized iron, making them doubly strong. The cover is fitted with inside hinges, preventing them being in the way and making it impossible to remove them while case is locked. The back edge of the cover is beveled, so that when thrown clear back the hinges will not be wrenched out of place or the cover broken off. The cover and front of the case are fitted with small copper eyelets, through which seals may be passed and the case sealed, the lined eyelets protecting the wood part of the case when seals are broken.



A removable galvanized lining makes this the most desirable case for summer use, either for shipping, delivery or holding cases for restaurants, stores and hotels. The milk can be iced down and the case closed, thus serving as a perfect refrigerator at all times. No water can drip from the case as the ice melts to make a sloppy mess on the floor or shelves. The cases are fitted with removable wooden dowl racks.

These cases are painted gray both inside and out and the racks are dipped in linseed oil, making them thoroughly waterproof.

Name and address can be stenciled on either side of the case and on cover without extra charge. Covers always included and will be charged for if not sent.

SIZES AND PRICES

Sizes	Twelve Pint	Twelve Pint	Eighteen Pint	Twelve Quart	Twelve Quart	Eighteen Quart	Twelve ½ Gallon
Arrangement	2 x 6	3 x 4	3 x 6	2 x 6	3 x 4	3 x 6	2 x 6
Price, each	$2.00	$2.00	$2.60	$2.35	$2.35	$3.00	$3.00

For price of extra galvanized linings only take difference in price of Wooden Delivery Cases and Refrigerator Delivery Cases.

WOODEN DELIVERY CASES

These cases are identical with the refrigerator cases described above, except that they have no galvanized lining. Where it is not desired to use ice in the cases for cooling they answer every purpose. Have removable wooden dowl racks.

SIZES AND PRICES

Sizes	Twelve Pint	Twelve Pint	Eighteen Pint	Twelve Quart	Twelve Quart	Eighteen Quart	Twelve ½ Gallon
Arrangement	2 x 6	3 x 4	3 x 6	2 x 6	3 x 4	3 x 6	2 x 6
Price, each	$1.35	$1.40	$1.50	$1.50	$1.50	$1.85	$1.80

We also furnish special cottonwood cases in lots of fifty or more at a much lower price. These cases are lock ended, bound with wire and securely nailed. Prices on application.

WIRE DELIVERY BASKETS

"IDEAL" WIRE WOVEN

This is considered to be the strongest, best and most attractive wire basket furnished to the trade. It is as good in every respect as baskets that are sold for twice the amount. Besides the regular heavy tinned wire frame, the basket is surrounded by close meshed, woven tinned wire, making it serviceable as a carrier for small, as well as large sized jars. The handles are so fitted that the basket balances at all times, whether full or partly full. The hand hold is well bound by spring wire. Made in two sizes only.



PRICES

	Four Quart and Two Pint Size	Six Quart Size
Each	$1.50	$1.50



HEAVY WIRE

In general outline this basket is the same as the wire woven, but does not have the extra wire woven covering.

All crossings and joints are well fastened and soldered. They are retinned and will resist rust and wear and stand a great deal of rough usage.

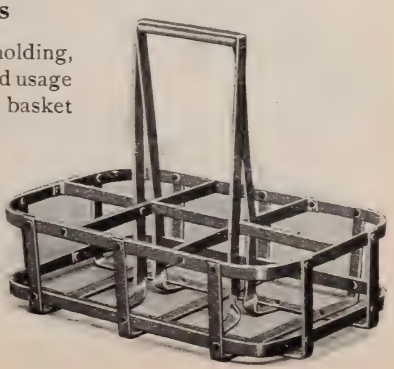
PRICES

	Four ½ Pint Size	Four Pint Size	Four Pint and Two ½ Pint Size	Six Pint Size	Four Quart Size
Each	$0.75	$0.75	$1.00	$1.00	$1.00

	Four Quart and Two Pint Size	Six Quart Size	Four 2 Quart Size	Six 2 Quart Size
Each	$1.00	$1.00	$1.25	$1.50

TINNED STEEL—Round Corners

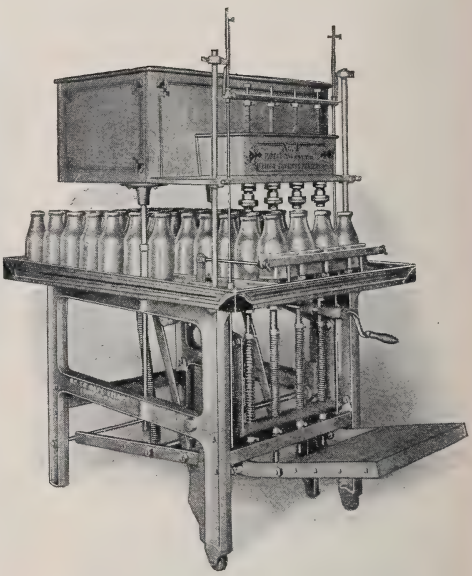
Where baskets are used for submerging, holding, and delivery purposes, and especially where hard usage is necessary, a more substantial and heavier basket than a wire basket is advisable. We, therefore, can furnish a special steel basket, heavily tinned and well riveted. The material is the very best that can be obtained, and the workmanship is perfect. It is a basket that will last a lifetime.



PRICES

	Six Quart (2x3) Size	Four Quart and Two Pint Size	Eight Quart (2x4) Size
Each	$1.85	$2.00	$2.25

THE UP-TO-DATE BOTTLE FILLER



In the construction of this bottle filler we have endeavored to overcome the objectionable features found in all of the bottle filling arrangements on the market at the present time.

The problem presented in the construction of a filler for milk bottles is entirely different from that involved in the construction of a machine for handling other liquids. The special feature of this filler, which distinguishes it from all other bottle fillers, is found in the construction of the valve. The pressure on the foot pedal throws the jar up so that the neck is engaged with the filling valve, forcing it up and opening the inlet valves. The milk itself flows into the jar, and on account of the special construction of the valve opening, the milk is sprayed against the side of the bottle and flows down the wall, filling from the bottom. There is consequently a clear opening for the air to escape through the center of the valve, which is connected with the air tubes shown in the illustration. While the bottles are filling the air rushes out of these tubes with a strong current. This prevents air bubbles in the milk, which produces foam when bottles are filled from the old style fillers. The overcoming of this foaming makes it possible to fill the bottles completely with the Up-to-Date Filler without the necessity of topping. We guarantee these machines to fill the bottles full enough for capping without a particle of foam or the slightest overflow.

This machine is so constructed that it can be easily arranged to fill half pint, pint or quart bottles without any special adjustment. The machine admits of a wide variation in the height of the bottles and in the size of the necks, so that a difference in this respect will not make it necessary to alter the machine in any way.

There are no expensive rubber valve attachments which are likely to wear out and require replacing frequently.

The machine itself, although very rapid, occupies very little space, and is easy to care for.

Less labor is required in the operation of this machine than any other filler of equal capacity on the market. The operation being performed by foot power the hands are left free to handle the bottles, and the process proceeds without interruption, so that a very large number of bottles can be filled without the necessity of a large number of assistants.

The machine has been carefully tested under the most trying conditions, so that all the weak points have been discovered, and the machine is so strengthened in all parts as to be substantial and durable.

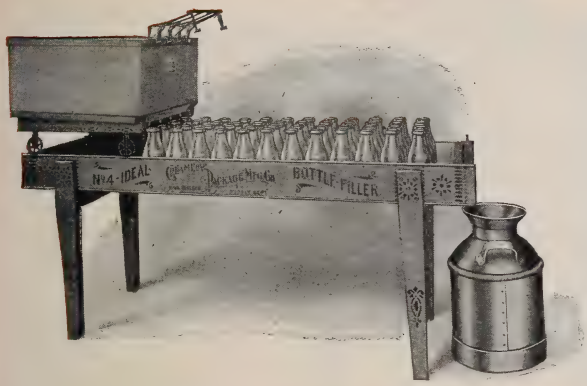
A little time is required to become accustomed to the operation of the machine, but after the operator becomes familiar with it we guarantee the two-row machine to have a capacity of 800, and the four-row machine a capacity of 1,500 bottles per hour.

PRICES

Two row	$150.00
Four row	180.00

IDEAL BOTTLE FILLER

WITH SQUARE TANK



For a low-priced bottle filler, we recommend the Ideal. It is substantially made and provided with a zinc-lined sink, with a holding capacity of 24 or 48 quart jars. The tanks hold about 13 and 27 gallons and have the filling device attached. The machine's filling capacity is about 12 and 18 quarts per minute, filling two or four jars at once, but the attachment is so made that one jar can be filled at a time if so desired. It is easily cleaned and very durable.

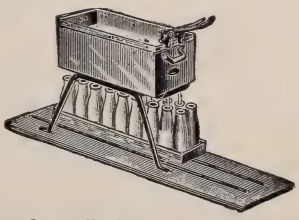
PRICES

		2-Row.	4-Row.
Ideal Jar Filler, complete	each,	$18.00	$25.00
Fitted with removable attachments for pints or ½-pints	"	20.50	28.00
" " " " " " and ½ "	"	25.00	30.00

EXTRAS

2-row Tank	each,	$4.00
4 " "	"	7.00
Complete attachment for 2-row	set,	5.00
" " " 4 "	"	8.00
Rubber Casings	each,	.15
Hand Levers	"	.45
Springs	"	.40
Thumb Screws	"	.25
Castors	"	.30
"S" Connecting Links	"	.15
Cross Levers	"	.45
" Lever Nuts	"	.30

THE EUREKA BOTTLE FILLER



The tank and attachments of this filler are identical to those of the "Ideal," but instead of moving the tank and milk on trucks the tank and milk are stationary, the tank being attached to a special iron stand. Underneath this stand running on brass tracks is placed the bottle sink or tray, in which the bottles are placed. This is made of galvanized iron and fitted with small runners or wheels attached directly to the bottom of the tray.

The filling operation is similar to that of the "Ideal," the bottles, however, moving underneath the tank, while in the "Ideal" the tank moves over the bottles. The outfit is complete with filler attachments, tank, iron stand, galvanized iron tray fitted with trucks, and track.

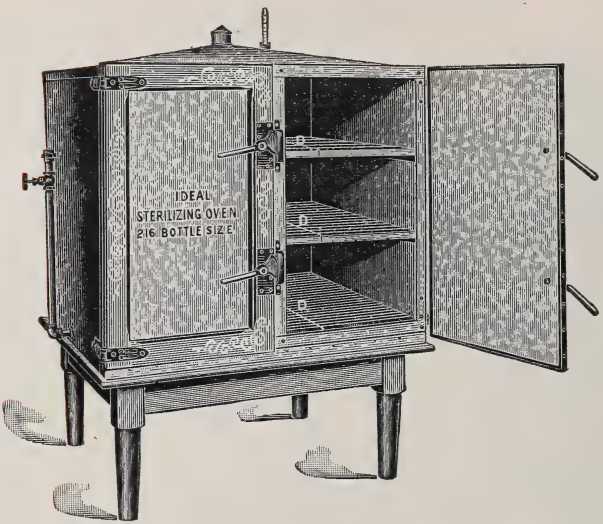
The tanks hold about 13 and 27 gallons. The trucks having a holding capacity of 18 and 36 quart jars for two and four rows, respectively. The racks included are for use in filling different size jars.

PRICES

		2-Row.	4-Row.
Complete without racks	each,	$12.50	$18.00
½-pint racks only	"	2.00	3.00
Pint racks only	"	2.00	3.00
Combined ½-pint and pint racks	"	2.25	3.00

Extras, same as for "Ideal" filler.

IDEAL STERILIZING OVENS



In order to handle milk in a sanitary manner it is absolutely necessary that all milk jars and other utensils used about a milk distributing plant be thoroughly sterilized after washing. This is done by heating to the boiling temperature for one half hour or more. To get best results special sterilizing ovens are necessary, and we believe the Ideal Oven, illustrated herewith, has no superior for this purpose.

It is made with a view to sterilizing bottles in the most thorough and convenient manner. Other utensils may be sterilized in these ovens by removing the shelves.

The sterilizing ovens are made of the very best of heavy galvanized steel, well braced and put together. They are provided with divided removable shelves, either wooden or galvanized iron. The steam enters at the bottom and is distributed through the oven from perforated galvanized pipe placed near the bottom. The bottom is pitched so that all drain runs off easily. The top is oval in shape and has a controllable ventilator, besides special attachments for our new straight bath thermometer with metal frame, showing a reading of from 70 to 310 degrees. The smaller sized ovens have a low and substantial stand on which they are to be placed. The doors have special fastenings and are fitted with cork seats, which prevents all possibility of steam escaping.

The outfit is very neat and attractive, all the woodwork being nicely painted. It is surely an ornament to any plant.

It is complete with stand, galvanized iron piping, valve, straight bath thermometer with expansion chamber, shelves, etc.

The operation of sterilizing milk jars is simple and effective. After the jars are sprayed, the racks with the jars are placed in the oven and sterilized thirty minutes. They are then taken out and placed on resting shelves and left until ready for use.

We have special baskets designed for these ovens, but we find where a sprayer is used that the sprayer rack is more convenient. This rack can be used in all the ovens except the 144 bottle size.

The ovens are made in the following sizes, the first three only being stock sizes:

SPECIFICATIONS AND PRICES

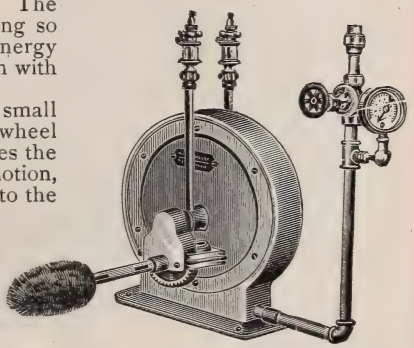
Capacity in Bottles	Weight, No. Pounds	Width, No. Inches	Length, No. Inches	Height, No. Inches	No. of Shelves High	No. Divisions to a Shelf	No. of Baskets will hold	No. of Racks will hold	Width of Table	Length of Table	Height of Table	Price Each
144	240	30½	47	37¾	3	2	12	....	32	60	20	$ 70.00
216	265	38½	47	37¾	3	2	18	9	40	60	20	85.00
288	290	38½	57	37¾	3	2	24	12	40	60	20	100.00

Larger Sizes Made to Order

IDEAL TURBINE BOTTLE WASHER

This machine is intended for use in large milk distributing plants. With this machine bottle washing is easy instead of an arduous task as when washing by hand.

The frame is made of heavy iron and so arranged that the entire front of the machine, with gearing, can be removed. The turbine flyer is of the very best design, being so constructed that the teeth receive all the energy of the steam, enabling the machine to be run with from two to eight pounds of steam.



The machine is fitted with a large and a small bronze gear, so proportioned as to allow the fly-wheel to run twice as fast as the brush. This gives the fly-wheel sufficient speed to insure steady motion, and at the same time gives the proper speed to the brush. All bushings are made of bronze. The brush spindle is so constructed that it will hold the brush handle firmly and when it is desired to replace worn out brushes with new ones, a few seconds time is all that is required. The spindle is divided and after placing the brush handle in position a collar is slipped on and held in place by a set screw, which holds the brush firmly in place.

The machine is fitted with sight feed oil cups, bronze gears and bearings, special steam gauge and syphon, globe valve, and all necessary pipes and couplings. With each machine we furnish one each of our Ideal, India Bristle, and Horse Hair Bottle Brushes, together with complete directions for operating.

These machines are furnished with either single or double brush, the double brush machine having brush attachments on both sides. We finish them in either painted or galvanized iron style. From a large number of tests that have been made with this machine it has been found that from 1,000 to 1,500 bottles can be washed per hour with a single brush machine, and washed well and without usual effort.

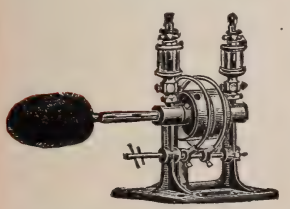
DIMENSIONS OF WASHER

Height over all, including oil cups, 23 inches.
Width, not including steam inlet pipe, 17½ inches.
Width, front to back, including brush adjusted, 20 inches

PRICE

Painted		Galvanized Iron	
Single brush	each, $52.50	Single brush	each, $67.50
Double "	" 60.00	Double "	" 75.00

ACME BELT POWER BOTTLE WASHERS



For those who have already fitted their plants with small powers, and do not care to go to the expense of purchasing one of our Ideal Turbine Washers, we can recommend the Acme Belt Power Machine.

This machine is very compact and well made. It is fitted with tight and loose pulley, size 3 inch diameter by 1½ inch face, and should run at a speed of 800 revolutions per minute. The machine is fitted with sight feed oil cups.

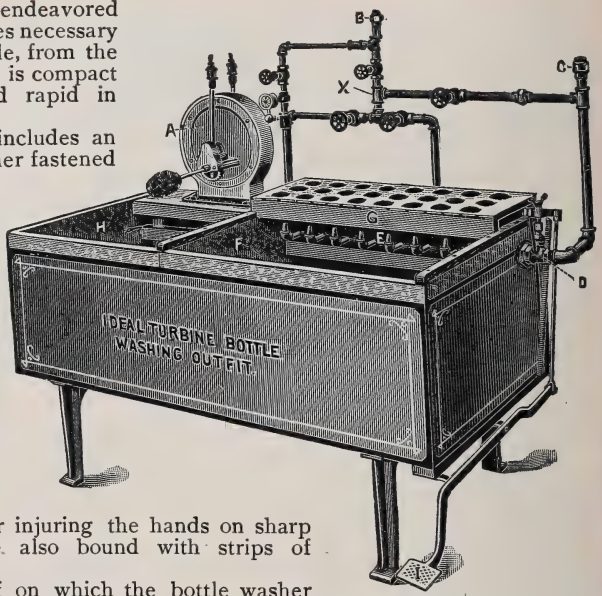
The machine is also fitted with belt shifter that can be operated easily. Taking everything into consideration we think that for a low priced article there is nothing on the market that can compete with this little machine.

We can furnish them only in the galvanized iron style, single or double brush, complete with brushes and directions, same as with the Ideal Turbine Machine.

PRICES, FIGURES

Single Brush		Double Brush	
Galvanized iron	each, $18.00	Galvanized iron	each, $22.50

THE IDEAL BOTTLE WASHING OUTFITS



In this outfit we have endeavored to embody all the requisites necessary for cleansing a milk bottle, from the washing to the rinsing. It is compact and very convenient and rapid in operation.

The outfit as shown includes an Ideal Turbine Bottle Washer fastened to a strong shelf covered with galvanized iron. The tank is very strongly made of one-inch cypress finished in natural wood and has heavy iron legs. It is lined throughout with heavy galvanized iron which extends over the edge and down the outside to a distance of three inches and is securely nailed. This does away with all danger of tearing the clothing or injuring the hands on sharp edges. The corners are also bound with strips of heavy galvanized iron.

Underneath the shelf on which the bottle washer rests, and also under the sprayer, are galvanized iron removable overflows, in front of which is fastened a removable wooden rack, or guard, intended to prevent the bottles from being broken by striking against the overflow and also to keep the bottles within easy reach of the operator.

As fast as washed the bottles are rinsed in the rinsing tank with clean water and then placed mouth downward in the sprayer rack. When this rack is full a slight pressure on the foot lever opens the valve and sprays the inside of the entire twenty-four bottles at one operation. The rack full of bottles is then removed and another rack put in its place. It is designed to use cold water only in spraying the bottles as a clearer effect is produced than when warm water is used.

It is furnished complete with all necessary pipe, fittings, valves, steam gauges, noiseless water heater, etc., ready to be connected to steam and water pipes. But one connection to each is required.

These washing outfits are also made double, *i. e.*, the bottle washer has brushes on both sides and the tanks are made double, making a complete double washing outfit.

Complete Dimensions of Single Outfits

Length over all, including sprayer valve, 69 inches.
Width over all, including piping in rear, 34½ inches.
Height over all, including legs, also valves and fittings on top, 56 inches.

Inside Dimensions of Washing Tank

Length from front to back, 30 inches.
Width from right to left, 25½ inches.
Depth, 18 inches.
Inside, from front to rack partitions, 23 inches.
Width of washer shelf, 8½ inches.

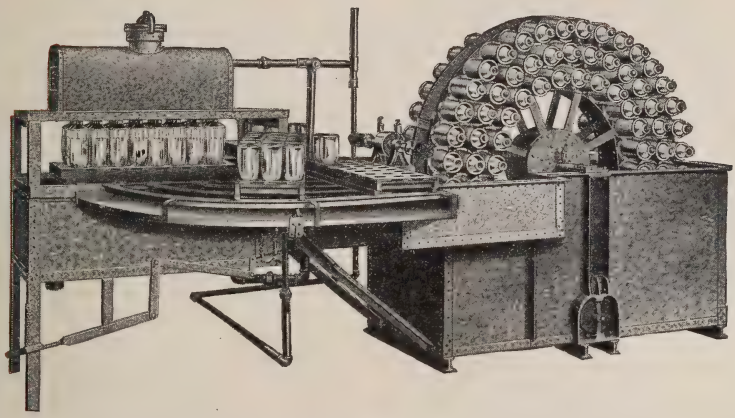
Inside Dimensions of Rinsing Tank

Length from left to right, 33¾ inches.
Width from front to back, 30 inches.
Depth, 18 inches.
Length of sprayer, 33¾ inches.
Length of wood sprayer rack over all, 35¼ inches.
Width of sprayer rack over all, 12¼ inches.
Inside from front of vat to rack partitions, 23 inches.
Width of sprayer, 9 inches.
Height of overflows, adjusted, 14½ inches.
Height of iron legs, 14⅛ inches.

PRICES

	With Painted Washer	With Galvanized Washer
Single Brush Outfit	$180.00	$185.00
Double Brush Outfit	255.00	260.00

SANITARY BOTTLE WASHING OUTFIT



It has been our aim in bringing out this machine to supply large plants a complete sanitary bottle washing outfit, capable of very rapid operation.

This machine is built entirely of metal, and contains bottle soaker, washer and sprayer, all arranged to give the fastest work with the smallest expenditure for labor. The floor space required for the entire machine is 12½ by 6½ feet. The soaking tank is seven feet long, three feet wide and three feet deep. In this tank, supported by the shaft, are two all metal large soaking wheels. On these wheels are riveted galvanized iron bottle cups.

The bottle washer is constructed especially for this machine; is belt driven and very durable. From the bottle washer to the spraying tank is a circular, angle iron track for conveying the bottles. The sprayer tank is two feet wide and four feet long, fitted with sprayer for spraying the inside of the bottles. Overhead is a sprayer tank, the bottom of which is perforated with holes fitting exactly above the bottles, each bottle getting a thorough rinsing inside and outside.

In operation it is very fast. Instead of filling the washing tank with dirty bottles, as in the ordinary bottle washing outfit, the dirty bottles are placed in the galvanized iron cups, which is done quicker than by dumping them into the washing sink. The increased weight of the bottles on the wheel causes it to revolve slowly without other power, and carries the bottles down into the water in an inclined position filling them instantly. By the continued addition of bottles the wheel lifts the bottles up on the opposite side by the bottle washer, allowing the washing solution to flow out of the bottle, only enough remaining for washing. It is not necessary to grope around in the washing tank for a bottle, as they are always at hand. The operator knows just where to place his hand on the bottle; and each one contains the proper amount of water for washing. Thus, no time is lost and breaking and chipping of bottles is avoided. As fast as washed, the bottles are turned, mouth downward, into the sprayer racks, and the water remaining drops into the catch pan underneath, and thence back to the soaking tank. When a sprayer rack containing twenty-four bottles is filled it is conveyed on the slides to the sprayer tank, and the bottles sprayed both inside and out with water at the desired temperature. The racks of bottles are then ready for the sterilizing oven.

This machine is a time and bottle saver. After being placed on the soaking wheel no bottle comes in contact with another bottle during the whole operation. The operator does not have to look for the bottles in the wash sink; there is one always ready. Neither does he have to drain the bottles after washing. This saves much time.

The machine is built double, each side being independent of the other. With five men working the machine the capacity is from 3,000 to 4,000 bottles per hour.

At present the machine is made in the double style only, but we are prepared to build single machines on order.

Price.....$500.00

CODES

FOR the benefit of our customers who frequently find themselves in need of goods and are unable to stand the delay necessary in ordering same by mail, we have compiled a telegraphic code, by the use of which they can wire us an order of considerable size without great expense. In using this code you will observe the necessity of spelling each word with great care, as the misplacement of a single letter might cause a serious misunderstanding. By using the different number codes in connection with the general codes you will see that it will be possible to order most any quantity of goods within reasonable telegraphic limits.

We give you below a sample message, which will illustrate how the code is to be used.

Acrostic Dale Dagger Banter Debatable Deaden Ball Debatable Belong Deaden

Translated:

Ship by first freight 10 5-gal. Dubuque Pattern Milk Cans; 200 60-lb. Improved Elgin Style White Ash Tubs; 200 Parchment Linings and Circles complete for 60-lb. Tubs.

TELEGRAPH CODE

Abandon.....Answer by mail
Abase .....Referring to our letter of
Abash.....Referring to your letter of
Abate.....We will write fully today
Abdicate.....We have no letter from you
Abduct.....Will write you fully in a day or so
Abel.....Write, giving full particulars
Abet.....Answer by telegraph, day message
Abhor.....Answer by telegraph, night message
Abide.....Referring to our telegram of
Ability.....Referring to your telegram of
Abject.....Telegraph immediately
Abjure.....Telegraph reply as soon as possible
Ablaze.....We have no telegram from you
Ablution.....Why do you not telegraph
Ably.....Shall we
Abnormal.....Will you
Aboard.....Will you accept
Abode.....Wire at once, accepted or not
Abolish..Will greatly accommodate us if you will
Abolition.....According to contract
Abominable.....Not according to contract
Aboriginal.....To which add the cost of
Abortion.....In addition to
Abound.....How did you address
About.....Was addressed to
Above .....Please note an advance of
Abrade.....Would you advise
Abreast.....Would advise you to
Abridge....Unless otherwise advised will assume that
Abroad.....Will you agree to
Abrogate.....Will agree to
Abrupt.....Must have answer by
Abscess.....Will be in
Abscond.....Will be here
Absence.....Cash on delivery
Absent.....Cash in 30 days
Absolute.....Will not allow any commission
Absolution.....Commission will be allowed
Absolve..Financial standing being unknown, we will send goods C. O. D., unless otherwise instructed
Absorb..Kindly send references as to your financial standing or shall we ship by freight with draft attached to bill of lading
Abstain.....Will you agree to conditions
Abstemious.....Contract awarded
Abstinence.....Contract will be awarded
Abstract.....Will you extend credit
Absurd.....Have you decided
Abundance.....Have not decided
Abundant.....Have decided
Abuse.....Will guarantee delivery by
Abusive....Cannot guarantee delivery before the
Abutment .....What is the capacity
Abyss.....Will do the best we possibly can
Academic.....Shall we do so
Academy.....Do so
Acanthus.....Can do nothing until
Accede.....What have you done about
Accelerate..Will deposit sight draft on you today unless advised to the contrary for——dollars
Accent.....Please accept our draft for——dollars
Accept.....Send duplicate copy of invoice
Acceptable....Have examined very carefully and find
Acceptance.....Expenses to be paid by
Access.....Do not fail to
Accessible.....Have figured as close as possible
Accession.....Freight must be prepaid
Accident...Freight rate per hundred pounds to destination is
Acclaim..What is freight rate per hundred pounds
Acclimate.....Guarantee the account
Acclivity.....Hold subject to your order
Accommodate.....Does not include
Accompanist.....Must be included
Accompany.....Will keep you fully informed
Accomplice.....Insist upon
Accomplish.....Await instructions
Accord.....Letter in transit with full particulars
Accordance....Shall we deliver goods on verbal order of your Mr.——
According...Advisable for you to place order at once, prices tending to advance
Accordion.....Our Mr.——will call on you
Accost.....Get our instructions at——
Account.....Go to——and wait for instructions
Accrue.....Our board meets——have your Mr.——there

ORDERS.

Acoustic.....Add to our order of
Acquaint.....Cancel our order of
Acquiesce.....Change our order of
Acquire...Hurry forward goods on our order of
Acquirement....Have you shipped goods on our order? If not when will you ship
Acquisition.....Enter order if you can ship in
Acquit.....Hold for instruction our order of
Acquittal.....If you cannot ship in time named advise by telegraph.
Acre.....Instructions by mail
Acrimony.....Prepay freight
Acrobat...Shipping instructions will be sent you
Across.....Ship immediately
Acrostic.....Ship as soon as possible
Act.....Ship by express
Action. .....Ship by fast freight
Active.....Ship quickest route
Acton.....Ship cheapest route
Actress.Send tracer immediately for shipment of
Actual.....Wait receipt of letter before proceeding with order
Actually.....Change order for
Actuate.....Send C. O. D. by express

Telegraph Code — *Continued*

ORDERS — *Continued*

Acute.....What quantity can you ship per day
Adage.....Do not delay
Adapt.....Duplicate our order of
Add.....Can you furnish
Adder.....Hold subject to your order
Addict.....Hold until further orders
Addition.....Send us immediately
Addle.....This is very important
Address.....How soon can you ship car of
Adept.....At what price could you furnish
Adequate....Quote us by telegraph best price on
Adhere.....Quote us by next mail best price on
Adherent.....Can you ship immediately
Adhesive.....Can you ship in
Adieu.....Have you in stock
Adjacent.....Have you in stock, if not, how soon can ship
Adjective.....How soon can you ship
Adjoin.....How soon can you make first shipment and how fast remainder
Adjourn.....What substitution can you make
Adjunct.....When can you ship

ANSWERS

Again.....Please specify quantities
Against.....Unable to give better price
Agate.....We quote
Age.....We quote for immediate acceptance
Aged.....We quote in reply to your inquiry of
Agency.....We quote shipment from stock
Agent.....We quote shipment in
Aggrandize.....We cannot accept at the price
Aggravate.....We will accept your order
Aggrieve.....We do not handle the article
Aghast.....Can ship at once from stock if advised immediately

ANSWERS — *Continued*

Agile.....Can ship at once on receipt of order
Agitate.....Can ship in
Agitation.....Can begin shipping at once and complete in
Agnostic.....Can ship within one week of receipt of order if advised at once
Agoging.....Can ship within two weeks of receipt of order if advised at once
Agony.....Have none in stock
Agree.....First shipment will be made
Agreed.....Have entered order and will ship
Agreeable.....Have started tracer as requested
Agreement.....Too late to cancel order
Aground.....Unable to ship goods on time promised
Ague.....Unable to ship until
Ahead.....We ship you to-day
Aid.....We expect to ship
Ail.....We will complete your order
Ailment.....We will ship
Aim.....We have shipped
Aimless.....We have completed your order and shipped same
Air.....We have entered order
Aisle.....Telegraph shipping instructions for your order of——
Akin.....Can deliver part of your order at once
Alacrity.....Shall we ship portion, or hold until we can make one complete shipment
Alarm.....Do not understand your order; send duplicate with full detail
Alas.....Send us official order confirming your order telegram
Albino.....Our quotations are F. O. B.
Album.....Is best price we can make
Alcohol....We no longer handle——can substitute

SUPPLY CODE

AUSTRALIAN BOXES

Babble.....Spruce Australian boxes, K. D.
Babe.....Poplar Australian boxes, K. D.
Bachelor.....Cottonwood Australian boxes, K. D.
Back.....Spruce Australian boxes, nailed
Backbite.....Poplar Australian boxes, nailed
Backslide....Cottonwood Australian boxes, nailed

BUTTER BOXES

Bail.....——lb. Bradley butter boxes
Bailable.....——lb. paper butter boxes
Bailiff.....——lb. round spruce butter boxes
Bait.....——lb. improved butter shipping boxes
Baize.....——lb. bail butter boxes
Balance.....No.——butter cartons

BUTTER TUBS

Ball....——lb. improved Elgin style white ash tubs
Ballad.....——lb. spruce butter tubs

BUTTER COLOR

Balm.....Chr. Hansen's Danish butter color
Balmoral.....Hansen's Columbian butter color
Balmy.....Wells & Richardson butter color
Balsam.....Dandelion butter color

BELTING

Bamboo.....Rubber belting, 3-ply
Banana.....Rubber belting, 4-ply
Band.....Leather belting
Bandage.....Gandy belting, 4-ply
Bandana.....Gandy belting, 6-ply
Bandit.....Leviathan belting
Bane.....De Laval and Alpha belts

CANS

Banquet.....——Gal. Union milk cans
Bantam.....——Gal. Hodo milk cans
Banter.....——Gal. Dubuque pattern milk cans
Bar.....——Gal. Elgin pattern milk cans

CANS — *Continued*

Barbecue.....——Gal. Valerius jacketed cream carrying cans
Barber.....——Gal. Ideal jacketed cream carrying cans
Barely.....Empire State milk cans

CLOTH AND PARCHMENT CIRCLES, LININGS, ETC.

CLOTH	CIRCLES	PARCHMENT
Baron	8½	Bean
Barouche	9	Bear
Barque	9½	Beard
Barrack	10	Bearer
Barrel	10½	Bearing
Barren	11	Beast
Barricade	11½	Beat
Barrister	12	Beating
Barrow	12½	Beau
Barter	13	Beauteous
Base	13½	Beautiful
Basement	14	Beautify
Bashful	14½	Beauty
Basin	15	Beaver
Basis	15½	Beckon
CLOTH	SQUARES	PARCHMENT
Basque	6x 6	Bedaub
Bass	7x 7	Bedding
Baste	8x 8	Bedside
Bat	8x 9	Beech
Bate	9x 9	Beef
Bath	10x10	Beefsteak
Baton	8x11	Been
Battalion	9x12	Beetle
Batter	12x12	Befogged
Battery	10x15	Before
Battle	12x15	Begin

Bellow.....Parchment linings for——lb. tubs
Belong...Parchment linings and circles complete for——lb. tubs.
Beloved.....Australian box linings

Supply Code—*Continued*

CHEESE BANDAGE

Below.....—— in. Seamless cheese bandage
Bench.....— in. Excelsior cheese bandage
Beneath.....—— in. Ready made cheese bandage

CHEESE COLOR

Bent .....Hansen's Domestic cheese color

CHEESE GREASE

Besiege.....Johnson's fly-proof cheese grease
Betray.....Cheese boxes (use number code to give sizes)
Beverage..cheese box material for —— boxes (use number code to give signs)

COOPERAGE STOCK

STAVES

Bevy.....No. 1 staves, 30 in.
Bewail.....No. 1 staves, 28½ in.
Beware.....No. 2 staves, 30 in.
Bewilder.....No. 2 staves, 28½ in.
} Give kind of wood

HEADING

Bewitch.....No. 1, 17⅛ in., hard
Bey.....No. 1, 17⅛ in., soft
Beyond.....No. 2, 17⅛ in., hard
Bias .....No. 2, 17⅛ in., soft
Bicker.....No. 1, 19⅛ in., hard
Bicycle.....No. 1, 19⅛ in., soft
Bid.....No. 2, 19⅛ in., hard
Bide.....No. 2, 19⅛ in., soft
Bier.....No. 2, 18½ in., soft

CURD KNIVES

Binding.....Horizontal curd knife
Biology.....Perpendicular curd knife

CLEANSING POWDER

Biped.....Fairchilds cleansing powder
Bitter.....Wyandotte cleaner and cleanser

HOSE

Blue.....3-ply conductor hose
Bluff.....4-ply conductor hose
Blunder.....Suction hose
Blunt.....Steam hose
Blur.....Wirebound hose

MILK JARS

Bodice.....Half-pint tin top milk jars
Bodied.....1 pint tin top milk jars
Bodily .....1 quart tin top milk jars
Bogus .....Half-pint Ideal milk jars
Boil.....1 pint Ideal milk jars
Boisterous.....1 quart Ideal milk jars

PERFECTION GATES

Bonfire..... ½-inch inside thread
Bonnet.....1¼-inch outside thread
Bonny.....1½-inch inside thread
Bonus.....1½-inch outside thread
Bony.....2-inch inside thread
Booby.....2-inch outside thread
Book.....3-inch weigh can gate

RENNET EXTRACTS AND TABLETS

Boom.....Hansen's rennet extract
Boost.....Hansen's rennet tablets

SALT

Bough.....Diamond crystal salt
Bought.....Ashton F. F. salt
Bounce.....Cadillac salt
Bounty.....Worcester salt

SCALE BOARDS

Borax.....—— inch Scale boards (use number code for size)

TUB FASTENERS

Bovine.....Common tub fasteners
Bower.....Riveted nail fasteners
Bowled.....Ideal fasteners

TEST BOTTLES

Brandy.....Babcock test bottles
Brass.....Babcock cream test bottles
Brave.....Russian test bottles
Bravado.....Ohlsson test bottles

THERMOMETERS

Bravery.....Common floating thermometers
Brawl.....Nickel-plated flange thermometers
Brawn.....New floating thermometers

VALVES

Bray.....—— in. Jenkins' brass globe valves
Brazen.....—— in. Jenkins' brass check valves
Breach.....—— in. Jenkins' brass angle valves
Bread.....—— in. pop safety valve
Break.....—— in. ball safety valve
Breakage .....—— in. common brass globe valve
Breast.....—— in common brass check valve

MACHINERY CODE

BUTTER WORKERS

Cabal..... Mason worker with plain table
Cabbage .....Mason worker with plain table and galvanized castings
Cabin.....Mason worker with rim guard
Cabinet.....Mason worker with rim guard and galvanized castings
Cable..... Fargo upright worker
Cackle. .....Alpha butter worker
Cactus.....National butter worker

BABCOCK TESTERS

Cadet.....Wizard turbine tester
Cage.....No. 1 Ideal cream tester
Cake.....No. 2 Ideal cream tester
Calcimine.... 20th Century 8 bottle tester, hand
Calcine..... 20th Century 10 bottle tester, hand
Calcium..... 20th Century 12 bottle tester, hand
Calculate .... 20th Century 24 bottle tester, hand
Caldron .....Official, No. —— hand tester

BUTTER PRINTERS

Callous.....Ideal butter printer
Callow.....Ideal butter printer with table
Calm..... Acme with table
Calmness.....American
Calomel.....Reid's automatic iron clad

BOILERS

See code words in connection with boiler lists

CHURNS

Canister .....Pine churn
Canker.....Ash churn
Cannibal..... Cedar churn
Cannon.....No. —— Victor churn and worker
Canoe..... No. —— Disbrow churn and worker

CHEESE PRESSES

Caprice .....Fraser's gang press
Capricious.....Fraser's combination gang press
Capsize..... Steel gang press
Capsule.....Patent Sprague automatic adjustable steel gang press
Captain..... Standing cheese press

CHEESE BOX MACHINES

Caption.....20th Century cheese box machine

CREAM COOLERS

Capture..No. — Star cream cooler, elevated water
Carmel.....No. — Star cream cooler with syphon
Caravan.....Ideal cream cooler

CREAM RIPENER

Caraway.....——gal. Farrington

CURD MILLS

Cargo..... Pohl self-salting curd mill
Carman.....Kasper curd mill
Carnage..... Harris curd cutter
Carnal.....Gosselin curd mill

ENGINES

See code words in connection with engine lists

FIRE EXTINGUISHERS

Cashier.....Perfection fire extinguisher

HANGERS

Catchup.....$1\frac{7}{8}$x12 in. hangers
Category..... $1\frac{11}{16}$x12 in. hangers
Cater..... $1\frac{15}{16}$x12 in. hangers

HEATERS

Caterer..... Climax milk heater
Catholic.....20th Century milk heaters

PARAFFINE TANKS

Cause .....Victor paraffine tank

PASTEURIZERS

Cautious..... —gal. Potts' pasteurizer
Cavalry.....No. — Farrington Duplex pasteurizer

PIPE TOOLS

Ceiling .....Stock and dies, ½ to 2 inches
Celebrate.....Stock and dies, ½ to 1½ inches
Celerity ..... Pipe vise
Celery...Brown's adjustable tongs, ⅜ to 1 inch
Celestial.Brown's adjustable tongs, ½ to 1¼ inch
Celibacy.Brown's adjustable tongs, 1 to 2 inch
Cell..... .....No. 1 Barnes' pipe cutter
Celluloid.....No. 2 Barnes' pipe cutter
Cement.....No. 1 Stanwood pipe cutter
Cemetery .....No. 2 Stanwood pipe cutter
Cense .....No. 1 Saunders' pipe cutter
Censor ..... No. 2 Saunders' pipe cutter
Census.....No. 1 Alligator wrench
Centennial .....No. 2 Alligator wrench
Centiped.. .....No. 3 Alligator wrench
Center..... .....12-inch Combination wrench
Central .....15-inch Combination wrench
Century .....10-inch Stillson wrench
Centurion .....14-inch Stillson wrench
Ceremony .....10-inch Trimo wrench
Certain ....14-inch Trimo wrench
Certificate .....No. 1 Parker's vise
Certify.....No. 2 Parker's vise
Cession.....No. 3 Parker's vise

PULLEYS

Channel.....Wood split pulley
Chant .....Iron pulley
(Use number codes to give sizes)

PUMPS

Charity.....No. 0 Dean upright pump
Charm.....No. 0 Dean horizontal pump
Charnel..... .....B Marsh pump
Chart .....BB Marsh pump
Charter.....4x 6 Marsh pump
Chase .....4x 8 Marsh pump
Chasm..... ..6x12 Marsh pump
Chastise..... Crank suction and force pumps
Chattel..Crank suction and force pump for deep well
Cheap .....No. 1 rotary pump
Cheat .....No. 1 pitcher pump
Chest .....No. 2 pitcher pump

REFRIGERATING MACHINES

Chestnut..... .... Stallman ——ton compressor
Chew.....Barber ——ton compressor

SCALES

Chickory.... .....——lb. Roberts' salting scale
Chide.....——lb Fairbanks' double beam scale
Chief .....——lb. Fairbanks' five beam scale
Childish.....——lb. Howe five beam scale
Chimb.....——lb. Howe double beam scale
Chime..... ——lb. Osgood double beam scale
Chimney.....——lb. Osgood five beam scale
China .....Troemner cream scale
Chip.....12 bottle cream scale

Machinery Code—*Continued*

SEPARATORS

Choir.....Alpha Acme belt Separator
Choke..... " " turbine "
Cholera..... " No. 1 belt "
Choral..... " No. 1 turbine "
Chord..... " No. 2 belt "
Chorister..... " No. 2 turbine "
Chorus.....De Laval Standard "
Chowder..... " turbine "
Chrome...Humming Bird No. 0 De Laval "
Chromo.....Daisy, De Laval "
Chronic...Improved baby, No.—De Laval "
Chrysalis..Improved dairy turbine " "

SKIMMED MILK WEIGHER

Cigar..... Ideal skimmed milk weigher
Cinchona..... Curtis " " "

SKIMMED MILK PASTEURIZER

Circuit.....Victor Pasteurizer, without oil trap
Circulate..... " " with oil trap

STARTER CANS

Citizen.....—Gal. Victor starter can, on casters
Civil.....— " " " " on legs

TANKS

Citadel..No. — Ideal galvanized iron steel tanks

TRUCKS

Clamber.....Platform truck
Clamor.....Butter and cheese "
Clamp.....New York butter "
Claret.....Chicago Daisy "
Clarify.....Bag "

VATS

Clerk.....Wood jacket tempering vat
Clever.....Galvanized " "
Climate.....— gal. cream vat, with ice sides
Climax..... — " " " " " ends
Clipper..— gal. cream vat, with ice sides and ends
Clique.....— gal. twin vat, with ice ends
Cloister..... " " " " " sides
Closet...— gal. twin vat, with ice sides and ends
Clothier.....— gal. milk vat
Cloud.....Sanitary Ideal — gal. milk vat
Clutch..... — gal. 20th Century vat

WEIGH CANS

Cobweb..... — gal. weigh can

WASH SINKS

Cock.....Curtis wash sink
Cocoa.....Stationary wash sink
Coddle.....Portable wash sink
Codger.....Round bottom wash sink

NUMBER CODE

Dabble	1
Dabster	2
Dado	3
Daft	4
Dagger	5
Dahlia	6
Daily	7
Daintily	8
Daisy	9
Dale	10
Damage	11
Damask	12
Damp	13
Damsel	14
Dance	15
Dandelion	16
Dandy	17
Danger	18
Dangerous	19
Dangle	20
Dark	25
Darken	30
Daunt	35
Dawn	36
Daylight	40
Daze	45
Dazzle	50
Deaden	60
Deadly	70
Deafen	75
Dearth	100
Debar	125
Debark	150
Debase	175
Debatable	200
Debate	250
Debauch	300
Debility	350
Debit	400
Debris	500
Debonair	600
Debut	700
Debutant	800
Decade	900
Decamp	1000

POUNDS

Decree	1 lb.
Decrepit	2 "
Decry	3 "
Dedicate	4 "
Deduce	5 "
Deduct	6 "
Deduction	7 "
Deface	8 "
Defalcate	9 "
Defame	10 "
Default	20 "
Defaulter	25 "
Defeat	30 "
Defect	35 "
Defective	40 "
Defence	45 "
Defend	50 "
Defendant	55 "
Defensive	60 "
Defer	75 "
Deference	100 "
Defiance	200 "
Defiant	300 "
Deficient	400 "
Deficit	500 "
Defied	600 "
Defile	700 "
Defilement	800 "
Define	900 "
Definite	1000 "

GROSS

Delicacy	1 gross
Delicate	2 "
Delicious	3 "
Delight	4 "
Delighted	5 "
Delineate	6 "
Delinquent	7 "
Delirious	8 "
Delirium	9 "
Deliver	10 "
Delta	15 "

Number Code—*Continued*

Gross—*Continued.*

Delude	20 gross
Delusion	25 "
Delusive	30 "
Delve	35 "
Demand	40 "
Demean	45 "
Demeanor	50 "

YARDS

Desk	5 yds.
Desolate	10 "
Desolation	15 "
Despair	20 "
Desperado	25 "
Desperate	30 "
Despise	35 "
Despite	40 "
Despoil	45 "
Despond	50 "
Despot	55 "
Despotic	60 "
Despotism	65 "
Dessert	70 "
Destine	75 "
Destiny	100 "
Destitute	150 "
Destroy	200 "
Desultory	250 "
Detach	300 "
Detail	350 "
Detain	400 "
Detect	450 "
Detection	500 "

SIZES FOR PIPE, HOSE, SHAFTING, PULLEYS, ETC.

Devoid	⅛-inch
Devoir	¼ "
Devolve	⅜ "
Devote	½ "
Devotee	⅝ "
Devotion	¾ "
Devout	1 "
Dewy	1¼ "
Dexterity	1½ "
Dexterous	1⅞ "

FRACTIONS

Disown	⅛
Disparage	¼
Disparity	⅜
Dispatch	½
Dispel	⅝
Displace	¾
Dispose	⅞

DISCOUNTS

Each	5 per cent
Eager	10 "
Eagle	15 "
Earl	20 "
Earn	25 "

SIZES FOR PIPE, HOSE, SHAFTING, PULLEYS, ETC.—*Continued*

Diabetes	1 7/16 inch
Diabolical	1 15/16 "
Diadem	1 15/16 "
Diagnosis	2 "
Diagonal	2½ "
Diagram	3 "

WIDTH OF BELTING, ETC.

Difference	1 inch
Difficult	1½ "
Diffidence	2 "
Diffuse	2½ "
Digest	3 "
Digestible	3½ "
Digestion	4 "
Dignity	4½ "
Digress	5 "
Digression	5½ "
Dilapidate	6 "
Dilate	6½ "
Dilatory	7 "
Dilemma	8 "
Diligence	10 "

GALLONS

Discuss	1 gal
Disdain	2 "
Disease	3 "
Disfavor	4 "
Disfigure	5 "
Disgorge	8 "
Disgrace	10 "
Disguise	20 "
Disgust	25 "
Dishearten	50 "
Dishonest	100 "
Dishonor	200 "
Disincline	250 "
Disinfect	300 "
Disinherit	350 "
Disinter	400 "
Disdain	500 "
Dislike	600 "

DISCOUNTS—*Continued.*

Earnest	30 per cent
Earth	33⅓ "
Ease	35 "
Easel	37½ "
East	40 "
Easier	45 "
Eatable	50 "
Eaves	55 "
Ebonize	60 "
Ebony	65 "
Eccentric	70 "
Echo	75 "
Eclat	80 "
Eclipse	85 "
Economic	90 "
Economy	95 "

INDEX

A

	PAGE
Acid Bottles	49
Acid Test, Mann's	52
Acid Tester	49
Acme Bottle Washer	117
Acme Butter Printer	54
Acme Milk Jars	109
Alkaline Tablets, Farrington's	52
American Butter Printer	55
Annatto Seed	84
Annattoine	84
Ash Butter Tubs	61
Australian Butter Boxes	63
Authorities, Dairy	50
Automatic Pipettes	49

B

Babbitt's Potash	50
Babcock Testers, all kinds	44-46
Babcock Test Glassware	47-49
Bandagers	76
Bandage, Cheese	83
Boards, Scale	81
Boilers, Ideal	105
Bottle Fillers	114-115
Boxes, Cheese	81
Boxes, Australian Butter	63
Boxes, Print Butter Shipping	64
Box Churns	42
Boyd Cream Ripeners	28
Burlaps	64
Butter Cartons	65
Butter Color, W. & R. Co.'s	70
Butter Ladles and Packers	59, 60
Buttermilk Cans	106
Butter Moulds	58
Butter Packages, all kinds	61-65
Butter Printers, all kinds	54-58
Butter Triers	53
Butter Workers, Combined Churn and	32-41
Butter Workers, Dairy	99-104
Butter Workers, Mason	43

C

	PAGE
Can, Victor Starter	15
Can Washer	31
Can Weighing	19
Caps, Pulp Milk Jar	110-111
Carriers, Egg	67
Cartons, Butter	65
Cartons, Egg	67
Cheese, Bandage	83
Cheese Boxes	81
Cheese Box Machine	82
Cheese Coloring	84
Cheese Factory Plans	90-91
Cheese Triers	53
Cheese Paraffining Tanks	80
Cheese Vats, Dairy	98
Churns, Dairy	100-102
Churns, Factory	32-42
Circles and Squares, Cloth	68-69
Circles and Squares, Paper	68-69
Climax Milk Heater	9
Cloth Circles and Squares	68-69
Coco Rennet	84
Code, Telegraph	120
Colors, Butter	70
Colors, Cheese	84
Conductor Heads	19
Conductor Trough	19
Coolers, Milk and Cream	96-97
Coops, Poultry	67
Corrosive Sublimate Tablets	50
Cork Shavings	66
Cream Cans with Cover Measure	107
Creamery Plans	87-89
Cream Pouring Cans	106
Cream Ripener, Boyd	28
Cream Ripener, Farrington	26-27
Cream Skimmers, Conical	117
Crimp Lip Caps	111
Curcuma	84
Curd Knives	73
Curd Mills	72-73
Curd Pails	74
Curd Test, Wisconsin	85
Curtis Skim Milk Weigher	24

D

PAGE

Dairy Authorities 50
Dairy Box and Barrel Churns 102
Dairy Butter Workers 103-104
Dairy Combined Churns and Workers 100, 101
Delivery Baskets 113
Delivery Cases 112
Dippers, Graduated 116
Disbrow Combined Churn and Worker 32-37
Dog Powers 93

E

Edam Cheese Moulds 79
Egg Cartons 67
Egg Cases and Fillers 66

F

Family Cheesemaking Apparatus 99
Farm Dairy Plans 92
Farrington Air Compressor 27
Farrington's Bichromate Tablets 50
Farrington Cream Ripener 26-27
Farrington Duplex Pasteurizers 12-14
Fasteners, Tub 71
Feed Cookers 105
Flange Thermometers 51
Floating Thermometers 51
Followers 77

G

Galvanized Iron Delivery Cases 112
Gang Cheese Presses 75
Gang Press Hoops 76-77
Gates, Molasses 18
Gates, Perfection 18
Glassware, Babcock Test 47-49
Gonda Cheese Moulds 79
Graduated Dippers and Measures 117
Graduates, Glass 53

H

Heaters, Milk 9-11
Hydrometers 49
Hygrometers 51

I

PAGE

Ideal Bottle Filler 115
Ideal Bottle Tester 48
Ideal Bottle Washing Outfit 118
Ideal Milk Jars 108
Ideal Turbine Bottle Washer 117
Ideal Skim Milk Weigher 22-23
Ideal Sterilizing Oven 116

J

Jars, Milk, all kinds 108-109

K

Knives, Curd 73
Knives, Tin Cheese 73

L

Ladles, Butter 59, 60
Larkey Heaters 9
Lewis Lye 50
Liners, Butter Tub and Box 68, 69

M

Mann's Acid Test 51
Mason Butter Worker 43
Milk Heaters, all kinds 9-11
Milk Samplers 49
Milk Test Supplies 47-50
Milk Thieves 49
Molasses Gates 18
Moulds, Butter 58
Moulds, Cheese 79

N

Nails, Tub Fastener 71

O

Official Babcock Tester 46
Oil Trap, Victor 25

P

PAGE

Pails 95
Paraffine 64
Paraffining Tanks, Victor 80
Parchment Paper 68, 69
Pasteurizers, Farrington Duplex 12-14
Pasteurizer, Victor 25
Perfection Gates 18
Pipettes, Automatic 47, 49
Potash, Babbitt's 50
Pouring Cans 106
Preservatives, Milk Sample 50
Presses, Cheese 75
Press Rings 76
Print Boards 55
Print Butter Boxes 64
Printers, Butter, all kinds 54-58
Pumps, Sanitary Milk 20, 21

R

Reid's Butter Printer 57
Refrigerator Cases 112
Refrigerating Machinery 3-8
Rennet Extract 84
Rennetine 84
Rennet Tablets 84

S

Sackers 76
Sanitary Bottle Soaker and Washer 119
Sanitary Ideal Vats 16
Sanitary Milk Pumps 20-21
Scale Boards 81
Scales 86
Shavings, Cork 66
Sieves 29
Siphons, Whey 74
Sites' Ventilated Coops 67
Skim Milk Weighers 22-24
Skimmers, Conical 116
Slim Neck Jars 108
Speed Knives 77
Spruce Butter Tubs 62
Square Box Churns 42
Square Cheese Hoops 78
Starter Cans 15
Strainers, all kinds 29, 30
Strainers, Dairy 93, 94

T

PAGE

Tablets, Ideal Corrosive Sublimate 50
Tablets, Farrington Bichromate 50
Telegraph Code 120
Test Bottles 47, 48
Testers, Babcock 44-46
Testers, Babcock Bottle 48
Thermometers 51
Tin Top Milk Jars 109
Triers, Butter and Cheese 53
Tub Fasteners 71
Twentieth Century Cheese Hoop 78
Twentieth Century Milk Heater 10, 11
Twentieth Century Sanitary Vat 17

U

Up-to-Date Bottle Filler 114
Up-to-Date Coolers 96
Up-to-Date Printers 57

V

Vats, Ideal Sanitary 16
Vats, Twentieth Century 17
Vats, Small Cream and Cheese 98
Victor Combined Churn and Worker, Factory 38, 40
Victor Combined Churn and Worker, Dairy 100, 101
Victor Churn Extras 40, 41
Victor Oil Trap 25
Victor Paraffining Tank 80
Victor Pasteurizer 25
Victor Starter Can 15

W

Waxed Paper 69
Weigh Cans 19
Whey Siphons 74
Whey Strainers 74
Wire Delivery Baskets 113
Wisconsin Curd Test 85
Wizard Babcock Testers 44
Wizard Butter Printer 55
Wooden Milk Jar Cases 112

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